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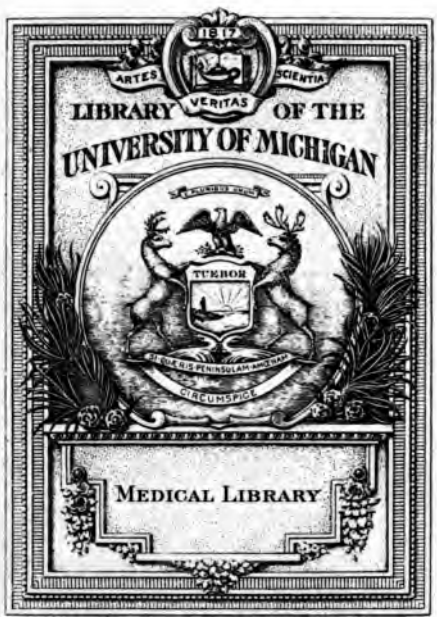
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TRANSACTIONS

OF THE

NEW HAMPSHIRE MEDICAL SOCIETY

AT ITS

NINETY-THIRD ANNUAL SESSION,

HELD

AT CONCORD, JUNE 19 AND 20, 1883.

CONCORD, N. H.:
PRINTED BY THE REPUBLICAN PRESS ASSOCIATION.
1883.

NEW HAMPSHIRE MEDICAL SOCIETY.

PROCEEDINGS

OF THE

NINETY-THIRD ANNUAL MEETING.

MORNING SESSION.

TUESDAY, June 19, 1883.

The society convened in Union Hall, Concord, and was called to order by the President, Dr. A. H. Crosby, of Concord, at 11 o'clock A. M.

Prayer was offered by the chaplain, Rev. F. D. Ayer, of Concord.

The following committees were appointed by the chair:

On reception of Delegates—Drs. C. R. Walker of Concord, G. C. Blaisdell of Contoocook, and T. B. Sanborn of Newport.

To examine and report on Patients—Drs. J. W. Parsons of Portsmouth, L. B. How of Manchester, W. T. Smith of Hanover, C. F. Leslie of Sunapee, and C. B. Hammond of Nashua.

To audit Treasurer's account—Drs. F. A. Stillings and I. A. Watson of Concord.

On motion of Dr. Stackpole, of Dover, *Voted*, To dispense with the reading of the records of the last meeting.

The report of the meeting of the council was read by the Secretary.

COUNCIL MEETING.

JUNE 18, 1883.

The council met at the office of the Secretary at 8 : 30 o'clock P. M., and was called to order by the President, Dr. A. H. Crosby.

On calling the roll by the Secretary the following members were found to be present:

Drs. G. C. Blaisdell of Contoocook, C. R. Walker of Concord, C. B. Hammond of Nashua, G. D. Towne of Manchester, C. R. Gibson of Woodsville, W. T. Smith of Hanover, A. P. Richardson of Walpole, T. B. Sanborn of Newport, C. W. Manchester of Lebanon, and J. H. Sanborn of Franklin Falls.

The vacancies were filled by the appointment of Drs. W. B. Porter of Walpole, S. P. Carbee of Haverhill, J. L. Patten of Whitefield, D. S. Adams of Manchester, W. G. Carter of Concord, C. F. Leslie of Sunapee, D. P. Goodhue of Springfield, Geo. Cook of Concord, and Guy Holbrook of Colebrook, in the place of Drs. G. H. Shedd of Bartlett, I. G. Anthoine of Antrim, Ezra Mitchell, Jr., of Lancaster, C. A. Morse of Newmarket, S. C. Whittier of Portsmouth, J. R. Ham of Dover, S. M. Dinsmoor of Keene, H. B. Burnham of Epping, and A. L. Emerson of Chester, who were unable to be present.

The council being now declared open for the transaction of business, the Secretary presented the following names of physicians who were applicants for membership, and being well recommended and vouched for, it was *Voted*, To approve of the applications and recommend them for membership.

DR. C. B. DRAKE, of West Lebanon.
DR. D. L. LOCKE, of Epsom.
DR. J. N. WOODWARD, of Nashua.
DR. L. E. GRANT, of Candia.
DR. C. A. WEAVER, of New Boston.
DR. F. P. FISHER, of Enfield Centre.
DR. C. C. O'BRION, of Groveton.
DR. H. W. BOUTWELL, of Manchester.
DR. W. J. SLEEPER, of Manchester.
DR. CHAS. F. FLANDERS, of Manchester.

Dr. W. H. RAND, of New Hampton.
Dr. GEO. F. MUNSEY, of Greenville.
Dr. FRED. P. JONES, of Goshen.
Dr. FRANK L. JUDKINS, of Moultonborough.
Dr. IRA J. PROUTY, of Keene.
Dr. GEO. S. GOVE, of Whitefield.
Dr. E. C. FISHER, of Sutton.
Dr. H. A. WATSON, of Henniker.
Dr. MINNIE E. HARGRAVE, of Manchester.
Dr. CAROLINE E. SMITH, of Manchester.
Dr. OLIVER D. EASTMAN, of Piermont.
Dr. CHARLES COREY, of Manchester.

The request of Dr. H. A. Weymouth of Andover, and Dr. Geo. Sanborn of Meredith, to become retired members, was duly considered, and it was *Voted*, To recommend that their request be granted.

Dr. John S. Billings, U. S. A., Washington, D. C., and Dr. John H. Mackie, of New Bedford, Mass., were recommended for honorary membership.

A communication from Dr. W. H. H. Mason, of Moultonborough, was read, asking that a charter be granted to the members in Carroll county to form a District Society; and it was *Voted*, To recommend that a charter be granted.

A letter was read from Dr. W. C. Kempton, of Grantham, asking to have his name dropped from the roll of members; and after due inquiry it was *Voted*, To recommend that his request be granted.

A letter was read from a physician in the state, but not a member of the society, asking that the society memorialize the legislature to pass an act to prohibit the sale of patent and proprietary medicines, unless the formula was printed on each bottle or package, with the penalty of a heavy fine for violation of the same.

This was discussed by the council for some time, when it was *Voted*, To lay it on the table for one year.

Dr. Cook, from the Board of Censors, read the following report, which was accepted:

REPORT OF CENSORS.

The following licenses have been granted during the year:

Date of license.	Name.	Residence.	Date of graduation.	Place of graduation.	By Dr.
1882.					
July 3	Henry A. Rundlett..	Pelham.....	1882	Harvard.....	Hill.
4	Linsey E. Grant....	Raymond.....	1882	Bowdoin.....	Hill.
11	Fred A. Holt.....	Concord.....	1881	Dartmouth.....	Cook.
14	Henry W. Boutwell.	Manchester....	1882	Harvard.....	Adams.
14	John H. Mills.....	Manchester....	1882	University of Vermont..	Adams.
22	Seth Eastman, Jr...	Concord.....	1882	University of Vermont..	Cook.
Aug. 2	Cyrus W. Scott.....	Ossipee Centre.	1882	Long Isl'd Coll. Hosp'l.	Adams.
11	Henry L. Sweney...	Kingston.....	1882	Harvard.....	Adams.
Sept. 11	J. Walter Bean.....	Lyme.....	1882	University of Vermont.	Cook.
14	George C. Hoitt ...	Manchester....	1881	Dartmouth.....	Adams.
30	W. R. Barnes.....	Lyme.....	1882	University of Vermont..	Cook.
Oct. 9	Solomon W. Young.	Pittsfield.....	1875	Dartmouth.....	Cook.
16	Harold V. Noyes....	Great Falls....	1881	Bowdoin.....	Hill.
17	John C. Jones.....	Manchester....	1881	Rush Med. College.....	Adams.
Nov. 17	O. D. Eastman.....	Piermont.....	1882	Dartmouth.....	Cook.
Dec. 8	Charles Corey.....	Manchester....	1863	University of Vermont..	Adams.
16	Newell W. Bean....	Auburn.....	1882	Dartmouth.....	Adams.
20	C. A. Weaver.....	New Boston....	1881	University of Vermont..	Cook.
26	Marvin F. Smith...	Pittsfield.....	1882	Dartmouth.....	Cook.
1883.					
Jan. 13	Minnie E. Hargrave.	Manchester....	1882	Woman's Med. Coll., Pa.	Adams.
Feb. 8	Frank E. Brigham.	Rollinsford....	1877	New York.....	Hill.
13	Edward H. Currier.	Manchester....	1880	Dartmouth.....	Adams.
20	Fred A. Morse.....	Newton.....	1881	University of New York.	Hill.
Mar. 2	Newell C. Nutting..	Concord.....	1882	Long Isl'd Coll. Hosp'l.	Cook.
April 17	Frank J. Aiken.....	Pittsfield.....	1882	University of Vermont..	Cook.
May 2	August A. E. Brien..	Manchester....	1883	Victoria University.....	Adams.
June 7	Joseph E. Lamatre.	Manchester....	1881	University of Lavalle...	Adams.
11	Caroline E. Smith..	Manchester....	1883	Woman's Med. Coll., Pa.	Adams.
14	Charles B. Drake...	Lebanon.....	1882	Dartmouth.....	Cook.
14	Geo. W. McGregor..	Littleton.....	1878	Dartmouth.....	Cook.

The following preamble and resolutions, in reference to the library and museum of the Surgeon-General's office, were adopted, and recommended to the society for acceptance:

Whereas, The medical profession of the United States, as well as of foreign countries, have contributed to the collections known as the Medical Library and Museum of the Surgeon-General's office, at Washington, D. C.; and

Whereas, These collections have become the most complete and valuable of their kind in the world, being of inestimable value to the profession and of national importance to the public; and

Whereas, We firmly believe that as citizens the medical profession of this country have some claims upon our government to protect and preserve these records of our self-sacrificing professional labor; and

Whereas, By reason that the building in which these collections are now placed is reported by the War Department to be insecure, and in constant danger of destruction by fire, from which would ensue irreparable loss; therefore,

Resolved, That, in the opinion of the members of the Medical Society of New Hampshire, the great value of these collections demands from congress such fair consideration of the merits involved as will secure an appropriation of sufficient amount to provide for the construction of a fire-proof building, suitable in its appointments to protect and preserve all books and material now on hand, or that will probably be contributed in the future.

Resolved, That the medical profession of New Hampshire, in common with those of all the states of the Union, are a unit in their belief that a library like that of the Surgeon-General's office will prove of much benefit to the profession, and ultimately to the public; and that, having a representation in the great political parties of the country, the great work is entitled to consideration as much as any subject connected with internal improvements, or the construction of public buildings for the use of courts, customs, or postal facilities.

Resolved, That the President and Secretary of this society send a copy of these resolutions to each member of congress from New Hampshire; also to the Surgeon-General of the United States army.

A question of ethics was submitted, and was referred to Dr. Cook of Concord, Dr. Hammond of Nashua, and Dr. Emerson of Chester.

It not being clear to the council what action should be taken in regard to one application for membership, it was voted at a subsequent meeting on Tuesday to refer the same to Dr. Manahan of Enfield, and Drs. Manchester and Davis of Lebanon.

The council then adjourned.

The report of the council was accepted, and on motion of Dr. Hill, *Voted*, That the Secretary deposit the report of the council and the names recommended thereon as the ballot of the society, thereby electing the new members unanimously.

The following members of other state associations were

introduced to the President and society by the Chairman of the committee on reception of delegates:

Dr. B. E. Cotting, Boston, Mass.
Dr. H. W. Williams, Boston, Mass.
Dr. Charles Dutton, Tyngsboro', Mass.
Dr. W. Shaw Bowen, Providence, R. I.
Dr. W. R. White, Providence, R. I.
Dr. Samuel J. Allen, White River Junction, Vt.
Dr. E. H. Pettingill, Saxton's River, Vt.
Dr. N. P. Wood, Londonderry, Vt.

The new members came forward, and having signed the constitution, took seats with the association.

The annual address of the President was delivered at twelve o'clock. Subject,—"The country doctor." At its conclusion a vote of thanks was tendered, and the paper was referred to the publication committee.

This was followed by an oration by Dr. G. W. Hatch, of Wilton, on "Our duty;" a surgical paper by Dr. F. A. Stillings, of Concord; a report on Practical Medicine, by Dr. W. T. Smith, of Hanover,—all of which were referred to the Committee on Publication, when the society adjourned to the Eagle hotel to partake of the anniversary dinner.

Dinner having been served, the Anniversary Chairman, Dr. A. P. Richardson, of Walpole, called the members to order, and called upon the President, Governor Hale, Chaplain Ayer, Dr. Williams, and others, who responded in a happy manner.

The post-prandial exercises occupied about one hour, when the society again met in Union Hall, and the work according to the programme was resumed.

During the afternoon session an essay was read by Dr. G. C. Blaisdell, of Contoocook; a report on Water Pollution, by Dr. I. A. Watson, of Concord; a report on Variola, by Dr. T. J. W. Pray, of Dover; a report on Pulmonary Abscess, by Dr. D. S. Adams, of Manchester,—which were referred, and the society adjourned until 7.30 P. M.

At the evening session a report on Venesection was read by Dr. P. A. Stackpole, of Dover, that was thoroughly discussed, and referred; and the Committee on Necrology, Dr. D. P.

Goodhue, of Springfield, reported the death of Dr. Silas Cummings of Fitzwilliam, Dr. C. A. Volk of Claremont, Dr. John W. Barney of Concord, and Dr. J. C. Marshall of Lyme. Obituary notices of the above-mentioned deceased members were read by Dr. M. T. Stone of Troy, Dr. A. R. Cummings of Claremont, Dr. A. H. Crosby of Concord, and Dr. J. A. Davis of Lebanon, which were referred to the Committee on Publication.

Adjourned until 8.30 Wednesday morning.

MORNING SESSION.

WEDNESDAY, June 20, 1883.

The Society met at 8:30, according to adjournment, President Crosby in the chair.

The reports of delegates being in order, Dr. J. W. Parsons, of Portsmouth, gave a *résumé* of the meeting of the Maine Medical Association, and Dr. T. J. W. Pray reported as Delegate to the Massachusetts Medical Society, and Dr. J. R. Kimball presented the report of the delegates to Dartmouth Medical College, all of which was referred to the Committee on Publication.

It was, on motion of the Secretary, voted to request for the Society, of the delegates to the Dartmouth Medical School, a copy of the annual address to the graduating class, and to publish the same in the Transactions of the Society.

At 9 o'clock the following officers were unanimously elected by ballot:

PRESIDENT.

DR. JOHN W. PARSONS, of Portsmouth.

VICE-PRESIDENT.

DR. JOHN WHEELER, of Pittsfield.

TREASURER.

DR. D. S. ADAMS, of Manchester.

SECRETARY.

DR. G. P. CONN, of Concord.

EXECUTIVE COMMITTEE.

DR. A. H. Crosby, of Concord.
DR. C. R. WALKER, of Concord.
DR. G. D. TOWNE, of Manchester.

The Executive Committee submitted the following programme for the annual meeting for 1884, with delegates to Dartmouth Medical College and other state societies; also nominations for the board of censors and council, all of which was adopted.

Orations by Dr. I. G. Anthoine of Antrim and Dr. C. R. Walker of Concord, with Dr. T. B. Sanborn of Newport and Dr. H. M. French of Concord as substitutes.

Reporter on Practice of Medicine—Dr. Ezra Mitchell, Jr., of Lancaster.

To Report on Surgery—Dr. E. O. Otis, of Exeter. Substitute—Dr. G. H. Bridgeman, of Keene.

To Report on Obstetrics—Dr. M. S. Danforth, of Manchester.

To Report on Necrology—Dr. Edwin E. Graves, of Boscawen.

SPECIAL PAPERS.

Mothers' marks, especially considering the popular delusion as to their origin from maternal impressions—Dr. M. C. Lathrop, of Dover.

Mental Disease—Dr. Charles P. Bancroft, of Concord.

Therapeutics—Dr. H. W. Boutwell, of Manchester.

Turf vs. *Stones*—Dr. S. C. Morrill, of Concord.

Diseases of the Eye—Dr. S. M. Dinsmoor, of Keene.

Next meeting to be held in Concord on the third Tuesday of June, 1884.

Anniversary Chairman—Dr. A. P. Richardson, of Walpole.

Committee of Arrangements—Drs. W. G. Carter, I. A. Watson, C. R. Walker, and H. M. French, of Concord.

Delegates to Dartmouth Medical College—Dr. C. F. Leslie of Sunapee, Dr. H. M. French of Concord.

DELEGATES TO OTHER STATE SOCIETIES.

Maine—Dr. A. H. Crosby of Concord, Dr. G. A. Crosby, of Manchester.

Vermont—Dr. W. T. Smith of Hanover, Dr. C. B. Drake of West Lebanon.

Massachusetts—Dr. A. P. Richardson of Walpole, Dr. N. G. Brooks of Charlestown, Dr. G. W. Hunt of Cornish Flat.

Rhode Island—Dr. George D. Towne of Manchester, Dr. George Cook of Concord.

Connecticut—Dr. S. G. Dearborn of Nashua, Dr. C. B. Hammond of Nashua.

The committee recommended, and it was adopted, that the appointments of delegates to the American Medical Association, which meets at Washington, D. C., the first Tuesday in May, 1884, be left to the officers of the society and the executive committee to fill.

(N. B.—Any member desiring to attend the meeting of the A. M. A. will please to correspond with the Secretary.)

CENSORS.

Dr. D. S. ADAMS, of Manchester.
Dr. GEORGE COOK, of Concord.
Dr. L. G. HILL, of Dover.
Dr. S. C. WHITTIER, of Portsmouth.
Dr. I. H. ADAMS, of Derry.
Dr. E. F. McQUESTEN, of Nashua.
Dr. G. D. TOWNE, of Manchester.
Dr. G. W. HATCH, of Wilton.
Dr. G. H. BRIDGEMAN, of Keene.
Dr. A. R. CUMMINGS, of Claremont.

COUNCIL.

Dr. G. C. BLAISDELL, of Contoocook.
Dr. H. M. FELT, of Hillsborough.

Dr. EZRA MITCHELL, Jr., of Lancaster.
Dr. C. A. MORSE, of Newmarket.
Dr. C. R. WALKER, of Concord.
Dr. C. B. HAMMOND, of Nashua.
Dr. G. D. TOWNE, of Manchester.
Dr. D. W. JONES, of Portsmouth.
Dr. M. C. LATHROP, of Dover.
Dr. C. R. GIBSON, of Woodsville.
Dr. S. M. DINSMOOR, of Keene.
Dr. A. P. RICHARDSON, of Walpole.
Dr. T. B. SANBORN, of Newport.
Dr. D. B. NELSON, of Laconia.
Dr. J. W. PRAY, of Northwood.
Dr. W. T. SMITH, of Hanover.
Dr. C. W. MANCHESTER, of Lebanon.
Dr. J. H. SANBORN, of Franklin Falls.
Dr. G. A. CROSBY, of Manchester.
Dr. S. P. CARBEE, of Haverhill.

The Treasurer, Dr. D. S. Adams, of Manchester, submitted the following report, which was accepted:

TREASURER'S REPORT.

To the Officers and Fellows of the New Hampshire Medical Society:

Your Treasurer, D. S. Adams, respectfully submits the following report for the year ending June 18, 1883:

Dr.

June 19, 1882.	To cash on hand,	$311.94
" 19, "	To cash received from Dr. Geo. Cook, Censor,	16.00
" 19, "	To cash received from S. G. Hill, Censor,	5.00
" 19, "	To cash received from D. S. Adams, Censor,	10.00
" 21, "	To cash received for dues at annual meeting,	150.00

June 21, 1882.	To cash received for admission fees, 22 members at $5,	$110.00
" 18, 1883.	To cash received for dues to date,	122.00
		$724.94

Cr.

June 20, 1882.	By cash paid Dr. Geo. Cook for semi-annual and Censor,	$10.71
" 20, "	By cash paid Dr. F. A. Stillings, ink, ribbons, &c.,	.45
" 20, "	By cash paid Dr. F. A. Stillings, nine dinner tickets,	9.00
" 20, "	By cash paid Dr. G. P. Conn, stationery, postage, &c.,	22.10
" 21, "	By cash paid J. N. McClintock, reporter,	5.00
" 21, "	By cash paid Dr. S. G. Hill, expenses as Censor,	.50
" 21, "	By cash paid Republican Press Association, programmes,	10.00
" 21, "	By cash paid Dr. G. P. Conn, dues W. B. Moody,	2.00
" 21, "	By cash paid Dr. G. P. Conn, services as Secretary,	25.00
" 21, "	By cash paid Dr. D. S. Adams, expenses as Censor,	5.40
July 5, "	By cash paid Horatio Hobbs, rent of Hall,	8 00
Feb. 6, 1883.	By cash paid Dr. G. P. Conn, fee of S. N. Welch,	5.00
March 2, "	By cash paid Evans, Sleeper & Woodbury, transactions, &c.,	172.60
" 2, "	By cash paid for Bank check,	.25
" 9, "	By cash paid for postals and printing (200),	3.00
" 14, "	By cash paid Dr. G. P. Conn, dues of D. B. Nelson,	2.00
April 10, "	By cash paid for cabinet for books, papers, &c.,	2.50

April 22, 1883.	By cash paid for postage and stationery,	$2.75	
June 11, "	By cash paid for 200 receipts for dues,	1.25	
" 19, "	By cash paid for postage and stationery,	.80	
" 19, "	By cash paid for 300 quack doctor notices,	1.60	
			$289.91
	Balance of cash on hand,		$435.03
	In Portsmouth Savings Bank,		1,369.59

The book of deposit of this fund has been lost, and I would recommend that the Treasurer have authority to procure a duplicate.

Dr. C. A. Fairbanks, Secretary of the Strafford District Society, and Dr. M. H. Felt, Secretary of the Centre District Society, made their annual reports for those associations, which were accepted and referred.

Drs. Hill of Dover, Hunt of Cornish, Felt of Hillsborough, Stone of Troy, and others, reported several cases that were discussed, and Dr. Parsons, from the committee to examine patients, gave a report of the cases that came under observation, when, there being no further business before the society, on motion of Dr. Hill, *Voted*, at 1 P. M., to adjourn until the third Tuesday of June, 1884.

G. P. CONN, *Secretary*.

PRESIDENT'S ADDRESS.

DR. A. H. CROSBY, CONCORD, N. H.

I think it must always be a puzzle to a man, possessing a fair share of modesty, to account for his selection from a great number of men of greater ability than himself to fill an office of honor and trust. A certain osculatory process, much in vogue among the young of both sexes, is said to go by favor, and I can only imagine that you have become so accustomed to performing kind acts to those of my name, that it even enables you to overlook *my* unfitness, and to elevate me to a position which fills to the full the highest measure of my ambition. When the late Dr. Peaslee was elected president of this society, he was warmly congratulated and cheered by his class at Dartmouth. The learned professor, in responding, said that he could only account for the honor done him upon the principle of the old but coarse adage, that the greater the enforced altitude up the pole of our Darwinian progenitor, the greater the exhibition it makes of the caudal appendage, which humanity is said to have lost in the survival of the fittest.

The recently chosen president of the medical society of one of the great Middle states was so elated, that in his speech of acceptance he said, "Why, gentlemen, I would rather be president of this society then go to congress." Congress indeed! Why, in looking through the large end of my telescope to-day, Solomon himself is a pigmy, and Alexander excites only a pitying contempt; for neither of them was ever president of this society! I must confess that I sympathize with the doctor in his enthusiastic appreciation of the honor done him, and I beg you to accept my heartfelt thanks for your

great kindness in selecting me to preside over your deliberations at this ninety-third meeting of our ancient society. As I once had the honor of saying to this society, every American gathering, from a ward caucus to a national convention, must be opened with a speech or oration from the chairman; and meetings of the learned societies form no exception to this rule. It is the penalty one pays for ephemeral greatness, and however flat, stale, and unprofitable the speech or oration may be, the victims are bound in honor to endure the inevitable earache patiently, as it was their own deliberate act in bringing the calamity upon their devoted heads. Of abstract scientific subjects, there are a million; and of making books upon such topics there is no end: still there is nothing new under the sun, saith the prophet.

Notwithstanding the many excellent papers that are read at our society meetings, I am inclined to think that most of us would prefer to read them quietly in our offices, rather than devote so much time to purely literary work. I would not by any means deprecate the writing and publishing of papers upon medical subjects, for we should thus lose much of the benefit we derive from our fellowship. I would have most of them given to us in brief synopses, stating clearly the points made, and then devote the larger moiety of our time to extempore discussion. Those of you who have attended our evening sessions, the past ten years, will bear me out in saying that the informal discussions upon those occasions have been most interesting and practical.

Declining, then, to read you a didactic paper upon some abstruse subject, I venture to announce, as my topic, "The country doctor:" to treat of ourselves, in short, in the past and in the present;—and even if the mirror I hold up to you is a dim one, I trust you may trace, at least, a feeble outline of the original. The Greeks, among many wise aphorisms, had one which said, "Know thyself;" and it may not be unprofitable for us, for a brief half hour, to cast to the winds all thought of what the world says and thinks of us; and, seggregated as we are, safe for a while from the invasion of suffering and exigeant humanity, to talk about ourselves and how we seem in each others' eyes. It would be difficult to describe, in writing,

yourself or your photograph to one who had never seen either; and in the country doctor of to-day we by no means see the counterfeit presentment of his prototype of fifty years ago. To be sure the many traits of character are the same; and in our doctor we see the same confidence, self-reliance, quickness of perception, and readiness in emergency, that characterized our predecessors. Modern advance in certain branches of our science has been so great during the past five decades, and modern pharmacy brings to our office tables such an influx of new remedies, that to a certain extent we have the advantage over our brethren of the olden time. They gathered their own lobelia, thoroughwort, and comfrey, and with the important addition of Jesuit's-bark, calomel, antimony, and opium, practised the art of healing successfully, while to us practice is literally made easy by the manufacturing pharmacist, who very kindly saves our phosphorus for us, and enables us to avoid excessive exhaustion of the brain by combining these newly discovered products of the earth, air, and sea, and applying to them names indicating their therapeutic uses. Thus, we have Dyspeptine, a mysterious compound of everything the manufacturer had ever heard was good for the stomach; Nephreline, which promises to rival even Warner's safest of safe kidney cures; "Bromidia," which, by the way, contains fifteen grains of chloral hydrate to the dose, and is recommended as a safe family remedy for insomnia and a host of other diseases. It is said to be well to beware of the man who reads but one book; and it is equally safe to look out for him who uses but one remedy for a disease, and uses that one well. This is exactly what our predecessors in medicine did. They had but few books, and fewer remedies, but they studied the one carefully, and used the other skilfully. Old Dr. Parkhust, of Lebanon, understood this when he used the root of the buck-bean to cure simple dyspepsia. He, by the way, was a typical country doctor of the old school, riding wholly on horseback, dealing out medicine of his own preparation from a pair of capacious saddle-bags. The judicious practitioner, the trusted friend, and the welcome guest at every fireside within his circuit, self-educated and self-reliant, he had rather a contempt for didactic learning, and was suspicious that his neighbors at Dartmouth

did not appreciate his merit. Many years ago the late Prof. Mussey called a meeting of the doctors in his vicinity for the purpose of forming a medical society. The meeting was well attended, and several gentlemen were called upon to speak, among them, Dr. Parkhust, who said, "Gentlemen, I haven't got college learning, for I was wove in a one, but I can practise medicine with any of ye." I understand that No. 1 was the coarsest mesh used by our grandmothers in weaving. Like many of the country doctors of the olden time, he combined farming with medicine, his speciality in that line being the breeding of mules for the West India market. It is said that upon one occasion he was piloting a large drove of mules down the river to New Haven, when, prone to wander, they left the road and ran into a clover field, through a convenient break in the fence. Near this opening, a very dignified looking itinerant preacher was riding along, upon horseback:—"Stop those mules, mister! Stop those mules!" the excited doctor shouted. The minister, offended at this abrupt salutation, drew himself up with the remark, "Perhaps you don't know whom you are addressing?" "No, I don't," said the doctor, "and I don't want to know; and if the Almighty knows who you are, he knows you are the biggest ass between my drove and Canada line!" He was a firm believer in worms and other parasites as the cause of nervous diseases, and would hardly have made the blunder which was made by a New York physician in a New Hampshire town within less than a year. This gentleman, who had studied abroad and graduated "an honor man," and who at the time held a first-rate hospital appointment gained by competitive examination, was visiting a friend in a small village. This friend had been troubled for some time with some obscure gastric and enteric symptoms, and had recently discovered in his *dejecta* some long white shreds, not unlike segments of tape in appearance. Feeling some delicacy about consulting his family physician, he availed himself of the opportunity to obtain a first-class city opinion. The doctor, after questioning him at some length, and getting only vague replies, asked to see some of the extruded segments. After looking at them, he inquired of the patient if he were not in the habit of eating maccaroni quite freely." "Yes, I am. I am very fond of it,"

replied his friend. "That's it," said the doctor; "those shreds are the outer skin or covering of the maccaroni, and your trouble is a simple dyspepsia. Your stomach will not digest them." The pepsin and bismuth prescribed did not relieve the symptoms, or prevent the passage of the maccaroni; so a few fresh specimens were handed to a country doctor, who recognized tapeworm at once, and, after one unsuccessful attempt, relieved the sufferer of a specimen of the *tenia lata*, measuring nearly 30 feet, with the head. The late Dr. McNab, a former fellow of this society, who reached the almost patriarchal age of ninety-five and over, was an old-fashioned country doctor who did not believe in worms, and nothing would provoke him more than to attribute the illness under consideration to the presence of these parasites. While practising near him in Vermont, I was called to see a child who I felt sure was suffering from the presence of lumbrici. Accordingly I gave it a dose of Tilden's fluid extract of spigelia and senna, and left at once to see a patient in another town. It happened that in less then an hour the child had a strong convulsion, and Dr. McNab was called in. He put the little patient into a hot bath, and applied cold to the head, and presently it went off into a quiet sleep. My diagnosis much disgusted him. He said he did not believe in worms, and that the fit was caused by the medicine, &c. Upon my return, I found the doctor by the bedside, and the child comfortable; but it had had no response from the anthelmentic. The doctor, with the air of superior wisdom with which we to-day sit down upon young men, remarked that he should like to know what I had given the boy to bring on that dangerous spasm. I informed him, thinking that he would admit its safety; but no. He said, "If you had given him some tea made of the crude pink-root and senna, it would not have hurt him; but you do n't know what these drug-makers, nowadays, put into their vile mixtures. They are made to sell, and to gull fools with, and I'll agree to eat every worm that passes him as the result of your dose." This was some six or eight hours after the exhibition of the drug, and I must say I had my doubts; but, luckily for my theory, in half an hour more the boy passed a worm of nearly a foot in length, a perfect Jumbo of a lumbrucus. This, in a spirit of mischief, was sent by the

mother of the boy to the venerable doctor upon a tea-plate, and covered with a napkin, with the intimation that he could probably have more in the morning if his appetite was not sated by this one. I am happy to remember that he took the joke good-naturedly, and admitted his defeat. It was not often, however, that one laughed last in an encounter of wits with Dr. McNab. The doctor was a Scotchman by birth, from the highlands, and inherited the hard-headed good sense and strong individuality of his distinguished ancestry. Like all the rest of us, the doctor had his faults; but the subsoil of the grave covers them, and has so deodorized any unsavory memories, that we only recall his many good traits, and especially his inflexible honesty.

It may now, without impropriety, be mentioned to his credit, that upon one occasion, when he ran counter to the laws of the land, he was released upon bail of $10,000. This was furnished by his old neighbors in Vermont. He went to California, where he experienced many vicissitudes, and after a few years came home poor and sick, suffering from *carcinoma* of one hand. This was amputated when he must have been more than sixty years old. He recovered his health, resumed practice, and in less than three years had repaid the friends who stood bail for him, with compound interest, and in ten years more had accumulated enough to provide for his declining years.

Dr. McNab to the last day of his professional life was a firm believer in the lancet, and the cases of pnuemonia, pleurisy, &c., were very rare in which he did not bleed. He thought that modern physicians threw away the best weapon in their armory when they discarded the thumb lancet.

Dr. Barney was also an advocate of free bleeding, and always used it *usque ad syncope* in cases of apoplexy. Some years before he died he passed a winter in Philadelphia, and improved the opportunity to attend medical lectures. One day Dr. Pancoast, Sr., was lecturing upon some inflammatory disease, and alluded to the old practice of bleeding, and then described the operation. It so happened that quite a number of physicians were present from out of town, many of whom had attained middle age. "I cannot show you a lancet," said the doctor, "and so much has the instrument fallen into disuse, that I doubt

if any practitioner in this room ever carries one." Dr. B. immediately rose from his seat in the front row of the amphitheatre, and handed the professor the lancet he had carried ever since he went into practice. A somewhat similar incident occurred at Bellevue hospital, a few years since. Some of the visiting physicians were gathered in the office, when one of the internes came in and reported to the physician then on duty that a man suffering from a sudden invasion of pluro-pneumonia was much worse, and that the dyspnœa and pain were increasing rapidly. The visiting officer remarked that as it was a plethoric subject, bleeding might relieve him, and directed the interne to take blood from the arm until the relief of pain or the approach of syncope warned him to stop. "But," says the young doctor, "I never bled a man in my life, and never saw it done." The visiting physician asked every man in the party in turn if he had a lancet with him, and received negative answers until he came to my brother, who took from his pocket one formerly carried by his father, and said he would perform the operation with pleasure. He was followed to the ward by most of the professors present, who looked upon the various steps of phlebotomy with great interest, some of them even saying it was the first time they had ever witnessed the operation. Although bleeding has fallen into unmerited neglect, I think I am safe in venturing the assertion that a general search-warrant executed here and now would detect at least half a dozen in the pockets of this convocation of country doctors. I doubt if a similar experiment in a gathering of metropolitan physicians would bring one to light. The popular argument against bleeding, and the popular explanation of its disuse, is found in the old maxim of the Latin grammar—*tempora mutantur et mutamur cum illis*. The argument is, that times have changed, and we have changed so much in physique and vitality, that loss of blood is not necessary to the successful treatment of congestion or pain; that the race has become so deteriorated that we could not bear the loss of the vital fluid any more than we could endure the hardships of that fearful winter at Valley Forge. Now while this may be true to a certain extent in the great cities, owing to the artificial life there led, with its whirl and turmoil of business and pleasure, the conversion of night into

day, improper food at improper hours, and the loss of healthy and sufficient sleep engendered thereby, still I cannot admit that this holds true of our steady New England country population. Perhaps it may be admitted that formerly general bleeding was given unnecessary prominence in the treatment of inflammations, and perhaps our local diseases may have undergone some change of character in the process of time; but I contend that this does not apply to topical bleeding, and that it is a matter of regret that the scarificator and cupping-glass should have shared the unpopularity of the lancet. It is the fact that in my limited experience I can in no way relieve so quickly and so satisfactorily a severe case of pleurisy, in a proper subject, as by wet cups. In troubles of the spinal meninges, both wet and dry cups answer an admirable purpose.

A few years ago I was instructed in my duty by a peripatetic quack, who took advantage of my negligence to effect a wonderful cure, as such cures are gauged by the newspaper advertisements. A man of fifty was riding up a steep and rocky hill, when the fastening to his wagon seat gave way and he was thrown out backwards, striking upon the occiput. He was stunned and unconscious, and I found him in a semi-comatose state when I reached him some hours after. He shortly rallied from the shock, and then followed considerable swelling of the muscles of the neck, which were badly ecchymosed. In a few days the swelling subsided and the discoloration disappeared under the usual treatment, but there was one spot just over the sixth and seventh cervical vertebræ that was still the seat of great pain. Any motion, especially lateral motion, caused a great increase of this pain. I made all sorts of external applications, used hypodermics of morphia, belladonna, ergot, &c., used dry cups—ah me, why didn't I use the wet ones?—called an old and distinguished member of this society in consultation, but all to no purpose. The peripatetic healer heard of this case, called upon a relative of the patient, and warranted a cure. I was unceremoniously dismissed, and nothing said about my bill. The healer came, used a wet cup, and the patient was easier. The cupping was repeated two or three times, and the man got well. His pathology, as he explained it to the admiring family, was perhaps partially correct. He said that an artery got

uncapped, the blood got under the skin and turned thick and black and was pressing against the pith, and proved it by displaying the coagulum in the cupping-glass.

Since writing this part of my paper I have been looking over my grandfather's old day-books and ledgers, running from 1782 to 1830, and it has surprised me to see the number who were regularly charged one shilling for phlebotomy, usually every spring and fall. This charge was probably made when the operation occurred at the doctor's house, for in some cases the charge is for a visit and phlebotomy 1*s.* 6*d.* I also find from these old books that up to the beginning of this century the charges were all made in English currency, and the insignificant smallness of them would astonish a modern specialist, or even a modern country doctor in full practice. One element, however, and an important one, is the fact that in those days a shilling would buy as much or more than a dollar does to-day; and then, again, in those early days the country doctor invariably combined farming with medicine, and raised everything eatable upon his own land, except salt, spices, and the luxuries of life. Then, again, the doctor had his little botanical garden wherein he raised many of the simples in common use, and in rare instances some of the exotics.

The late Dr. Renton, of this city, had such a garden, in which a few of his medicinal plants have not even yet died out. Many of our indigenous medicinal plants were very easily gathered, and were prepared so carefully that not even the extracts, tinctures, and elixirs of the same plants, from the hands of the manufacturing pharmacist, equal them in therapeutic effect.

The fee for bleeding, one hundred years since, having been alluded to, it may be interesting to see what our old-time country doctors got for other services. In the day-book under examination, I find many such charges as the following:

NEHEMIAH LEE, 1787.

June.	To visit 2 miles, extracting 2 teeth.	
	Flower-Sulphur, Precipitated,	0. 3. 6
	Dressing, and Extracting Teeth, and visit,	0. 3. 0

June.	To Elixir Camphor, half an ounce; Sal. Glauber one ounce.	
	Jesuit's-Bark, and visit,	0. 3. 0
	Phlebotomy, at my house,	0. 1. 0
	Peru Aurant, Epispast, and visit,	0. 3. 0

After two closely written pages of similar items, running through several years, we come to Widow Lee, relict of Nehemiah, and it would seem that early in her affliction she sought the consolation bottle, for the first charges against her are as follows:

Spts. Lavender, Rub.	
Cort. Peru, Rad. Gentian.	
Old Rum, and visit,	0. 4. 6

Again, in a few days, we have,—

Balsom anodyne.	
Tinct. Guaiac.	
Elix. Camphor.	
Spirits Lavender, and visit,	0. 4. 4

To Capt. Bean, he charged:

Elixir Camphor, Balsam, Anodyne, Febrifuge, Balsam, Sulphur and Peru, and visit six miles,	0. 6. 0
Also, to Emetic, delivered your daughter Smith,	0. 0. 3
Also, Emetics for two, Phlebotomy for two, self, and daughter Smith,	0. 2. 3

In 1796, I find this charge:

John Weed, to Catheterism, and visit 11 miles,	0. 10. 3

The same year, I find the following charge:

Aaron Smith to 6 days' attendance on your daughter Selina,	0. 12. 0
To Whooper's female pills [spelled with a W],	0. 0. 6

Whooper's pills would seem to be entitled to respect for advanced age, if for nothing else. The practice of obstetrics

could not have been lucrative, especially in prolonged labor, for David Shaw is charged, "to visit 12 miles, medicine, and putting your wife to bed, 0. 12. 0."

In running hastily over the book, it surprises one to see how few medicines were given, and how often they were repeated. Calomel, ethiops mineral, red precipitate, valerian, skull-cap, gentian, camphor, red lavender, tartar emetic, gamboge, &c., appear upon every page. While poppy heads appear occasionally, and opium very seldom indeed, I find no mention of ether or laudanum before the year 1800. Plasters of different kinds appear frequently, mostly charged as emp. roborans, and pix Burgundy. Both New England and Jamaica rum are mentioned, but not very often. The doctor seems to have literally done a trade and barter business. Some of the credits are curious. For instance: Seed corn; use of horse to mill, in Burton, 14 miles; 1 steer calf; 2 quarts of New England rum; 15 yards sheep's grey cloth; working out my taxes on road; 1 gallon whale oil; 2 cart wheels; lynch-pin and yoke, &c.

If penniless young doctors, in these days, were received as coldly by the inhabitants of their selected location as they were in the old doctor's day, I think some of our many medical schools would be compelled to suspend business. It seems that a stranger, going into a town without apparent means of support, could be warned off by the selectmen, and compelled to leave, if he could not prove that he was not likely to become a town charge. The doctor, at the outset, attempted to settle in Moultonborough; but he did not inspire the town guardians with confidence, and he was accordingly warned off and went to Sandwich, where the people dealt more liberally by him.

Early in this century, country doctors, especially throughout New England, began to suffer from the first inroads of organized quackery. The annoyance our predecessors suffered from quacks can hardly be realized at the present day, when from every newspaper the bland features of the late lamented Lydia Pinkham beams upon us so sweetly, and the equally inane and fatuous lineaments of the man so celebrated for his wonderful cures in New Hampshire. In place of the hundreds of baits thrown out to the sick, from the inspired seeress who treats

her patients under the direct instruction of some defunct Indian chief, to the magnetic healer and Warner's safe kidney cure, our doctor of the olden time, for many years, had but one such enemy to his comfort, and that was one of the most remarkable of all such delusions, viz., "Thompsonianism." This very city was the scene of some of his exploits, for here he had quite a large infirmary, fitted with all the paraphernalia for boiling and roasting diseases from the bodies of his patients. I I have been told that for a long time his establishment was full, and Thompson was constantly in demand in other states. The history of his career is so curious, showing how even the most intelligent are apt to take *omne ignotum pro magnifico*, and to trust their lives in the hands of men ignorant to the last degree of the human system, that I venture to quote briefly from Dr. King's account of this dangerous empiric.

"The author of this system (as it was called) was Samuel Thompson, who was born in the town of Alstead, in the state of New Hampshire, Feb. 9, 1769. His parents were poor, and he suffered much from sickness and hardships during his early life. It seems that an old lady, who lived in the neighborhood of his father, often officiated in the family as doctress. He watched her as she prepared doses from roots and herbs; and this awakened his curiosity, and led him, when a small boy, to take particular notice of the wild plants which he found in the fields. On one occasion he chewed so much lobelia as to become unmistakably acquainted with its emetic power. This made a permanent impression upon his mind, and in after years he claimed to be the first discoverer of the medicinal powers of that plant to which he gave the name of emetic herb.

"During ten or fifteen years, whilst engaged in ordinary farming, he occasionally tried his hand at doctoring with roots and herbs in his own or neighbors' families, and sometimes, as he said, cured rattles or croup with rattlesnake oil. According to his account his efforts were always entirely successful, which led him to continue and increase his exertions. In 1813, when he was 44 years of age, Thompson had so far matured his plans and had become so elated with his supposed discoveries, that he applied in person to the commissioner of patents, and at length succeeded in obtaining a patent for his compositions,

which secured to him the exclusive right to use certain medicinal preparations. With the help of some friends he published a pamphlet containing some account of his principles and practice, with directions for using his medicines. These, with the right to use the preparations according to his directions, he sold to individuals and families for twenty dollars a right. By this scheme every family which purchased a right could forever afterwards dispense with all other medical means. This patent right gave him and his practice immediate publicity, his business increased rapidly, crowds gathered around him for agencies and rights, and in a short time his disciples, furnished with books and medicines, might be seen threading their way over the whole country, ready to practise in every possible case of accident or disease, and to sell the whole skill for twenty dollars. If reports are correct, never was any medical treatment so successful before. Fevers, rheumatism, pleurisy, consumption, cancers, ulcers, and broken bones all yielded to this new method, and were cured. And when regular physicians everywhere exposed the ignorance and danger of this new method, and cautioned the public against it, its advocates cried out, Persecution!

"They placed the name of Thompson by the side of Harvey and Jenner, and called upon the public to believe that Thompson's scheme was true because the discoveries of Harvey and Jenner proved to be so. Thompson, through ignorance, supposed that lobelia, cayenne, and other articles which he put into the hands of his ignorant agents, were always perfectly harmless and safe. But numerous sad examples soon convinced the public to the contrary. In almost every village and hamlet patients died under the Thompsonian treatment.

"Thompson himself was indicted for murder, and confined in prison, and was finally acquitted because the judge charged the jury that there was no evidence of malice aforethought, and therefore the respondent could not be held guilty of wilful murder, although the patient might die by means of the treatment, because Thompson did not design to *kill* his patient, but was trying to *cure* him. Some of his agents were also arrested and imprisoned, but escaped punishment.

"Being profoundly ignorant of everything relating to medical

science, Thompson's theories were of the rudest kind. He said he had discovered that man was composed of four elements,—earth, water, fire, air. The first two constituted the substance of the machine, and the last two kept it in motion. Heat, he ascertained, is life; and cold is death. The stomach is the furnace, and food the fuel, in health, assisted by medicine in disease. The stomach, like a fire-place or stove-pipe, he supposed was liable to get foul and clogged and need cleaning out, and that all disease is caused by some filthy accumulation, and that all the art of cure consists in removing such accumulations and thoroughly cleaning the machine. As minerals are not generally combustible, he concluded they were unfit for fuel in the stomach, and therefore should not be used as medicines. He declared that an all-wise Creator must have furnished every part of the world with medicine sufficient for the wants of all its inhabitants. All his medical efforts were designed to maintain or increase the inward heat or life, as he called it, and he supposed that whenever this internal heat became reduced as low as the external temperature, the machine must cease to move, and the patient die. He called scientific men book-doctors, and lost no opportunity to approach and deride them. He scouted the idea of learning the art of medicine by study, and declared that study was no more necessary for a doctor then for a cook. His disciples saw that he was verily in earnest, and often caught the same spirit. They formed associations in various parts of the United States, which were called "Friendly Botanic Societies," and each of these sent delegates annually to a general botanic convention. This grand consociation met each year at some appointed place. In 1825 it met in Boston.

"For a time Thompson and his disciples supposed that the death-warrant of legitimate medicine was sealed. Never did a class of quacks boast of success more loudly or more positively, or struggle against opposition with more determined heroism. It is supposed that there were at one time in the United States between one and two thousand Thompsonian or botanic practitioners, besides those which had family rights for their own use. Itinerant practitioners spread Thompson's papers, medicines, and principles in the South, over the far West,

and even carried them into Canada. Sometimes men of wealth, learning, and influence favored the scheme, and many clergymen and other literary men gave it their support. Like all other delusions, having no foundation in truth, it was destined to perish. Whenever the attention of intelligent, reflecting men was directed to it, they saw its absurdities and its dangers, and opposed it; and the great number of sudden deaths which took place under its operations alarmed the public, and often obliged the practitioner to fly from the scene of his exploits. As certain sagacious quadrupeds are said to quit a sinking ship, so Thompsonian doctors one after another abandoned their craft. Some returned to the anvil, some to the lap-stone, and some to the plow. Others stood their ground, and continued to practise in some way under other names. The outdoor signs of Thompsonian doctors and Thompsonian infirmaries disappeared in a trice, and the men who but a short time before were Thompsonians had now become improved botanic doctors, or eclectics, or of the reformed practice, or homœopathists, or hydropathists, or chrono-thermalists, or something else, and by this process of transmigration many of the same class of men 'still live.' The actors are of the same class, but the play is called by a new name.

"Thompson died in 1845, being 76 years of age, and from that day to the present no one has ever been known to declare himself a Thompsonian doctor. Here the drama closed, but the same actors with numerous accessions are still performing other farces quite as empty and quite as deceitful."

But let us return to our subject, and call as a witness the doctor-poet of Harvard, that most delightful of men and writers, who has caused American literature to be honored wherever the English language is spoken,—our own Holmes. In a novel he wrote many years ago, entitled Elsie Venner, he introduced a typical country doctor, and I think locates him with the scene of the story in this state. Another character, the hero of the story, is a medical student, in whom the professor is interested, and of whom he moralizes thus:

"Oh, yes! country doctor; half a dollar a visit; ride, ride, ride, all day; get up at night and harness your own horse;

ride again ten miles in a snow-storm; shake powders out of two phials *(pulv. glycyrrhiz., pulv. gum. acac. āā partes equales);* ride back again, if you don't happen to get stuck in a drift; no home, no peace, no continuous meals, no unbroken sleep, no Sunday, no holiday, no social intercourse, but one eternal jog, jog, jog, in a sulky, until you feel like the mummy of an Indian who had been buried in the sitting posture, and was dug up a hundred years afterwards!"

Speaking of his typical country doctor and his vehicle, he says,—

"Whenever the narrow sulky turned in at a gate, the rustic who was digging potatoes, or hoeing corn, or *swishing* through the grass with his scythe, in wave-like crescents, or stepping short behind a loaded wheelbarrow, or trudging lazily by the side of the swinging, loose-throated, short-legged oxen, rocking along the road as if they had just been landed after a three months voyage,—the toiling native, whatever he was doing, stopped and looked up at the house the doctor was visiting: 'Somebody sick over there t' Haynes's. Guess th' old man's ailin' ag'in. Winder's haäf-way open in the chamber,—shouldn' wonder 'f he was dead and laid aout. Docterin' a'n't no use, when y' see th' winders open like that. Wahl, money a'n't much to speak of to th' old man naow! He don't want but *tew cents*, —'n' old Widah Peake, she knows what he wants them for.' Or again: 'Measles raound pooty thick. Briggs's folks buried two children with 'em laäs' week. Th' ol' doctor, he'd h' ker'd 'em threugh. Struck in 'n' p'dooced mo't'f'cation,—so they say.' This is only meant as a sample of the kind of way they used to think or talk, when the narrow sulky turned in at the gate of some house where there was a visit to be made.

"Oh! that narrow sulky! What hopes, what fears, what comfort, what anguish, what despair, in the roll of its coming or its parting wheels! In the spring, when the old people get the coughs which give them a few shakes and their lives drop in pieces like the ashes of a burned thread which have kept the thread-like shape until they were stirred; in the hot summer noons, when the strong man comes in from the fields, like the son of the Shunamite, crying, 'My head! my head!' in the dying autumn days, when youth and maiden lie fever-stricken

in many a household,—still-faced, dull-eyed, dark-flushed, dry-lipped, low-muttering in their daylight dreams,—their fingers moving singly like those of slumbering harpers; in the dead of winter, when the white plague of the North has caged its wasted victims, shuddering as they think of the frozen soil which must be quarried like rock to receive them if their perpetual convalescence should happen to be interfered with by any untoward accident,—at every season the narrow sulky rolled round freighted with unmeasured burdens of joy and woe."

Speaking of the doctor's office, the professor says,—"There was the usual tall box with its bleached, rattling tenant; there were jars in rows where 'interesting cases' outlived the grief of widows and heirs in alcoholic immortality,—for your 'preparation-jar' is the true '*monumentum ære perennius;*' there were various semipossibilities of minute dimensions and unpromising developments; there were shining instruments of evil aspect, and grim plates on the walls, and on one shelf by itself, accursed and apart, coiled in a long cylinder of spirit, a huge *crotalus*, rough scaled, flat-headed, variegated with dull bands, one of which partially encircled the neck like a collar,—an awful wretch to look upon, with murder written all over him in horrid hieroglyphics."

And again: "The old doctor was a model for visiting practitioners. He always came into the sick-room with a quiet, cheerful look, as if he had a consciousness that he was bringing some sure relief with him. The way a patient snatches his first look at his doctor's face, to see whether he is doomed, whether he is reprieved, or whether he is unconditionally pardoned, has really something terrible about it. It is only to be met by an imperturbable mask of serenity, proof against anything and everything in a patient's aspect. The physician whose face reflects his patient's condition like a mirror may do well enough to examine people for a life-insurance office, but does not belong to the sick-room. The old doctor did not keep people waiting in dread suspense, while he stayed talking about the case,—the patient all the time thinking that he and the friends are discussing some alarming symptom or formidable operation which he himself is by and by to hear of."

In preparing this rather rambling and desultory paper, I have tried to learn something of the formation of the earlier American medical societies, but the material is so scanty that I can find but little that would be of interest. Even our own venerable society, now almost a centenarian, did not publish its transactions until 1854; while in England, two centuries since, medicine and surgery were treated of and discussed in the meetings of the Royal Society of Arts and Sciences. Some of the topics introduced and discussed at great length are very curious and amusing.

I have before me the notes of a meeting held during the reign of Charles the Second, and many years after Harvey had demonstrated the present theory of the circulation of the blood. At this meeting magnetical cures were discoursed of, and Dr. Talbot promised to tell what he knew of sympathetical cures, and requested those who had any powder of sympathy to bring it at the next meeting. Mr. Boyle related that a gentleman having made experiments of the ayre, essayed the quicksilver experiment at the top and bottom of a hill, when there was found three inches difference. Dr. Charleton promised to exhibit a white powder which when put into water heats it. Dr. Sir Kenelmn Digby related that the calcined powder of toads, reverberated and applied in bags upon the stomach of a pestiferate body, cures it by several applications. This same Kenelmn Digby was for many years one of the leading physicians in London, although his early triumphs with calcined toad powder were achieved in the country. At the next meeting it is reported that Dr. Ent, Dr. Clark, Dr. Goddard, and Dr. Whistler were appointed curators of the proposition made by Sir G. Talbot to torment a man presently with the sympathetical powder; and again Dr. G. Talbot brought in his experiments of the sympathetic cure.

"The reader of these early records smiles a painful smile," says Jefferson, "at the feeble steps of its first members in the direction of science. The subjects discussed were the efficacy of the divining-rod, the merits of sympathetic powder, and therapeutic mixtures like the following electuary of gems: Take ʒij white pearls; two pieces of sapphire, jacinth, cornelie, emeralds, and gromit; one ounce sweat-root, doronike, pame-

citron, mace, basil, red coral, amber, shaving of ivory, red heben, ginger, long poppies, spikenard, fol. indicum, cardamon, saffron, trochalos, cinnamon, zumbeth, thin bits of gold and silver, and musk. Make an electuary with honey emblici which is the fourth kind of mirobolans. This healeth cold, diseases of the harte, brane, and stomak, swooning, pensiveness, and solitariness." Even Warburg's tincture, so popular in the South-west for the treatment of intermittents, has not many more incompatible ingredients. This system might properly be called "firing into the flock," and may occasionally be successful, as it must hit something.

A pill much in vogue, an emanation from the brain of a distinguished French-American neurotomist, seems to have been inspired by a similar desire to get in everything that is good for the nerves. One thing is certain, that until Parke, Davis & Co. discover new fields and fresh pastures for therapeutic investigation, the pill can never be added to, and subtraction is contrary to the spirit of the genius that invents a pill. We differ widely now-a-days from good old Dr. Radcliff, who said that when a young practitioner he had twenty remedies for every disease, but that now he found twenty diseases for which he had not one remedy.

In the matter of surgery our old country doctor was even more helpless than in medicine. I ought not to say helpless, for these men were in every sense of the term helpful, and, what is better, they helped themselves. Fifty, seventy-five, and one hundred years since, the surgical armamentarium was very limited, and only within the reach of town and city doctors. His confrere in the rural districts had to improvise his instruments, and in some cases the adaptation of means to the end was very ingenious. A former president of this society, when a student, was present in the adjoining town of Loudon when a consultation was held by three of the most prominent medical men of this county, in the case of a man whose thigh bone had been crushed by a falling tree. At the time of the injury the patient absolutely refused to submit to the amputation, strongly advised by the doctors. Subsequently the limb became gangrenous, and a consultation was called, and our student accompanied his instructor to see the case. When the consultation was over, the

hour was so late and the distance home so great that all the doctors passed the night in the neighborhood, the student being left to watch with the sick man during the night. The result of the consultation had been communicated to the patient, and the verdict was fatal—no help for the poor fellow, as it was then too late to amputate. During the long, weary watches of the night the patient asked the student if he agreed with the doctors. "No, I do not," said the iconoclast; "I believe you would survive the operation, and get a fair stump." "Did you ever cut off a leg?" "No, but I should like to," quoth the young man. "Should you dare to do it if I would consent?" asked the patient." "Gladly," said he. "Then you shall, if I live to see the sun rise." In the morning he announced his decision to the council, but without exception the members dissented, and the only surgeon present who had an amputating case refused to loan it to the daring and ambitious student. Not to be balked, he sharpened a large bread knife, had a small handsaw filed, and with a pair of forceps and a tourniquet improvised from a saddle-girth and buckle, and, aided by his preceptor, after he had tried long and earnestly to induce the student to back down from his presumptuous position, the leg was amputated by the circular operation; and the student gradually nursed him back to health and strength. The same ex-president, when a student, also improvised a blunt hook from a wire taken from the rim of a milk-pan, bent in the required shape and smoothed upon the hearth-stone, and with this simple instrument removed the secundines from a woman who was almost moribund from post partum hemorrhage.

Long before the speculum became the beautiful plaything it is now, the right bower of gynecology, and the "happy delight," as the Japanese say, of hysterical women, another ex-president of this society had a case where something really ailed the womb of the patient. With no hint from the books of the day, and with no especial experience in that popular branch of our calling, he made a very respectable speculum from the snout of an old block tin tea-pot, and this same instrument answered his purpose for more than thirty years. An extension splint, still in existence, made by the same country doctor, combines all the principles of the most approved apparatus. We have

had recently abundant proof that the spirit of the fathers has not entirely died out, and that modern country doctors, within easy reach of three or four large cities, can and do depend upon natural genius in an emergency, and produce the best of results from the most heterodox of instruments. If Gov. Butler's investigation at Tewksbury has done nothing else, it has certainly proved that the instrument-makers have not absorbed all the mechanical genius in the land, but that amid leafy shades and in rustic surroundings doctors are still found who can at a pinch dispense with their aid. All honor then to Dr. Lathrop, who in an extreme emergency, and deprived of the proper instruments by the miserable parsimony of a great and opulent commonwealth, saved his patient by performing craniotomy with a rat-tail file and a screwdriver. For this triumph of our art, and because he could not nurse back into life a lot of syphilitic foundlings, predestined to death from the creation, he has been summarily removed from a position far beneath his merit.

But the rapid flight of time warns me to be brief, lest I cause you to regret that this paper, with many better ones, was not read by its title and referred to the proper committee. I feel that I cannot bring my rambling talk to a better close than by quoting the text suggested for the funeral of Sir Thomas Browne, an eminent scholar, a graceful writer, and a beloved physician of more than two centuries ago. This text was taken from one of the uncanonized books—I mean that of Syracides the son of Syrach—commonly called Ecclesiasticus, which in the 38th chapter and first verse hath these words: "Honor the physician with the honor due unto him, for the uses you may have of him; for the Lord hath created him; for of the Most High cometh healing, and he shall receive honor of the king. The skill of the physician shall lift up his head, and in the sight of the great man shall he be in admiration." May we all so live and practice our divine art, that when the inevitable summons comes, and we are called upon to lay down the weapons with which each and all of us, according to the use we have made of the God-given talent, have combated the fatal powers of disease and death, loving hands, inspired by grateful hearts, may lay this same tribute upon *our* graves when the immortal part of us has gone—*where?*

OUR DUTY.

BY G. W. HATCH, M. D.

Mr. President, Gentlemen of the Society:—

We owe a duty both to our patients and to ourselves.

First, what is our duty when called to go to the sick?

We ought to answer our calls at once, I think, if we can, and for several reasons: First, if we get to the case early, we often can do a great deal of good; and secondly, as one of my lecturers once said, "Attend to your calls as early as possible, so as to get there before the patient gets well;"—and I have found, in three and a half years' practice, that there is a great deal in that remark. If we are prompt to answer the summons of the sick, we certainly will gain a better reputation than if we are tardy in attending to them. Be the physician never so smart, yet tardy in answering calls, the physician who may be less learned, but prompt in attending the sick, will succeed over him in the amount of practice he will get.

The physician should endeavor to be social, and always as eager to speak to a person in the garb of a workman as when dressed in his best.

We should notice the old and the young, for it is sure to influence our practice. The child very often has choice in the physician whom it will have, and will choose the one who speaks to it, and seems pleased to meet it.

We should be dignified to a certain extent: our profession demands it: but too much dignity will not suit a certain large class of people.

We should be careful in speaking with our patients, and use language to suit them. A great many can understand us if we use strictly medical terms, but the majority cannot, and we

ought to conform our language to suit them; in fact, we should be able to meet the demands of the highly educated, or illiterate, and be intelligible to all.

When we get to the sick-room, how should we act? Always the part of a gentleman. I remember my first case in obstetrics. I was puzzled to know how to act, but I remembered the wise words of one of our lecturers. He said, "Young gentlemen, you will soon be called to a case of obstetrics, and will be puzzled how to act. But always bear this in mind: act as gentlemen; treat your patient as you would wish your wife, your mother, or sister treated;—do that, and I will guarantee you success."

We have cases among our female patients when a vaginal examination is necessary, and unless we know our patient we should never make the examination except in the presence of a third party. This is a duty we owe ourselves. If we ignore this precaution, we place our reputation at the disposal of any malevolent woman. We have worked too long and too hard to get our profession, and then to get into practice, to lose it by neglecting this precaution.

Do you remember reading, within the year, in our medical journals, of the English physician who had a female patient who entered suit against him for alleged abuse of her person during such an examination? Dr. A, I will call him, was a young and prosperous physician, in partnership with Dr. B. When this patient entered suit against him, he did as any one of us would have done,—told his partner about it, and asked his advice. What did he reply? This: "If you are such a man I want nothing more to do with you, and I think that we had better dissolve: and they did. What did A do now? He felt the blow so keenly that he shot himself. The woman, when she received the news of his death, felt the remorse of her act, and owned that he was not guilty; that she did it to make money out of him;—but the poor, hard-working physician was dead,—a young life wrecked just by neglect of this precaution.

Again: we court trouble in cases of fractured bones. Here we ought always to call in a consultant, if not at the time of "setting" the bone, at the next visit certainly. If we neglect to, we place ourselves and property—if we are fortunate enough to

have any—in the hands of our patient. In a case of fracture, a great many people are sure to see the case. Here we will meet with the old women—of both sexes—just as we do at the "baby case," and the worse the fracture the better recovery do they demand. People are peculiar. Now I have had, during the past winter, among other cases of fracture, the following: A farmer, seventy-three years old, of intemperate habits, just at night went up on the loft of his barn to pitch down some hay for the cattle. It was somewhat dark, and he was just from town. He inserted the fork into the hay with the concavity of the tines towards him, when he went to lift; and of course he felt strong, and the fork lifted out, and he went literally "over the bay." He fell about ten feet, and struck upon a hay-rack, and from there to the floor, causing a comminuted fracture of both the tibia and fibula, the fractured ends of the tibia nearly pricking through the skin. Well, nearly every one said that he could n't get well; his habits and age were against him;—so they were, but he did recover. But how? With a sound but crooked leg,—and why, we can all understand. The injured leg would not submit to the proper treatment, but he has a very good and useful leg. Now, what do the people say? Why, this: "Doctor, don't you think that leg is a pretty bad one, a pretty crooked one?" "Yes," I say, "but I am proud of it, and should be if it looked worse than it does, and was as strong." And after explaining it to them, they know it to be a good recovery. The patient and all relatives are perfectly satisfied with it, but if it had been in some families it might cause me trouble. We ought not to run such risks. We must remember the duty we owe ourselves as well as that which we owe our patients.

Another duty we owe our patients is, to give our whole time to them. We ought not to engage in any side business that will draw our attention from our chosen profession. We ought not to enter into politics, for we cannot, especially, hold any office without taking our attention to a certain degree from our patients; and if the people are willing to employ us, and pay us for our time, it is our duty to give it to them. There is a class in every town and city whom we call "beats," who never expect to remunerate us for our attention to them. That class should be put down. To the poor we expect and are will-

ing to give visits, but the "beats" *never;* and it is our duty to those who employ us, and pay us, not to give our time to that class.

Another duty we owe to our patients and ourselves is, to live a morally pure life. We need have nothing to do with the use of liquors or tobacco, or other loose habits. Some say that the smoke of tobacco, or a drink of whiskey, will prevent us from taking disease. I say it will not. The physician who is free from the virus of these things will ward off and withstand disease much better than he whose system is filled with them.

And while practising our profession, the noblest in the land, let us not forget that Great Physician who was on earth before us. While getting knowledge, we should get wisdom. We should learn of Him who is greater than us all; and perhaps at the death-bed, where we sometimes are, we can say some words of comfort to the bereaved ones.

I don't hold that the physician should be a preacher. The two should not be combined in the same man; but if we know of that Great Physician, and follow His teachings, shall we not lead a better and more profitable life on earth, and at last may we not expect to wear the golden crown above?

THE GREAT WORK.

BY GEO. C. BLAISDELL, M. D., CONTOOCOOK.

Mr. President and Gentlemen of the New Hampshire Medical Society:

Surrounded as we are to-day, on the ninety-third anniversary of this society, by the circumstances which suggest the coming and going of men, their birth, their labors, and their death, it is not strange that a general feeling of congratulation should occupy the hour in honor of the success of this society.

Born in comparative obscurity, and set adrift before the world as an experiment, subject to all the angles and trials incident to adversity's school, it commenced its mission, and as the hours and years went by it grew stronger and more potential, until its influence is felt from the centre to the circumference of our domain, and its representatives seen in every city and town among the hills and valleys of the Granite State.

The age of man and his usefulness are computed by years: so with societies. Ninety-three years suggests a long journey: the parlance of the day speaks reverentially of the old school. Presumption has it that Shakespeare was contemplating the evening of life when he said inquiringly,—

"Is not your voice broken, your wind short, your chin double, your wit single, and every part of you blasted with antiquity?"

The delineation of a character like this would hardly apply to a progressive school or society, or furnish a fertile field for

the antiquarian in his rush for fossils and fossilized specimens. No tinge or odor of antiquity nestles about the work of this society or the school it represents. No! the thinking and intellectual minds of the age have ere this accorded all the substantial and legitimate advances of medical and surgical science as the outgrowth of its deliberations, the sophistries and denials of the new school notwithstanding.

From the pages of history we learn that opposition to progress and progressive ideas had its origin in ancient times. Harvey was dishonored for the discovery that immortalized his name; for maintaining the circulation of the blood, was treated as a visionary. Sydenham bore the stigma of *quack* and *murderer!* Varolious, by making his anatomical discoveries, incurred the displeasure of Silvius, who denounced him as an infamous and ignorant madman, an arrogant, slanderous calumniator, ignorant of everything,—and continues his tirade in language that threatens to rob some of our modern congressmen of their glory.

The discovery of percussion by Avenbrugger was denounced as the outcroppings of an insane man. Times change: to-day the names of Harvey, Sydenham, and Avenbrugger still live, while their accusers, whatever bustle they made during their existence, have long since faded into obscurity, and their names have never been mentioned since their death.

Nehemiah, who was born during the captivity of ancient Babylon, being touched with the calamitous state of the Jews on their return to Jerusalem, besought the king of Persia to permit him to go to Jerusalem and assist in rebuilding it. Accordingly he was sent thither to rebuild the shattered walls, with opposition on every hand, and all manner of devices and ingenious stratagems planned by his wicked and wily enemies to withdraw his attention. But his reply,—coming as it did from a man having a heart in his work,—is worthy of imitation, especially in times like these: "I am doing a great work, and therefore cannot come down."

Inferences drawn from a life like this suggest the few thoughts selected as the basis of this paper, on the "great work" in which we are engaged as a society and a profession. A summary of the evidence before us in the volumes of medical lore

of the day. is a revelation of growth and prosperity in all the departments of medical science. Growth and prosperity are words of significance, and to have them prominent when engaged in any legitimate work gives strength and character to an undertaking. Assuming that this argument is true, the duty of the physician becomes at once apparent, viz., to assist in carrying on this work of elevating our noble profession to a still higher sphere of intellectual excellence, by all possible means at our command. The advantages of organization have been recognized from the days of antiquity to the present hour. The value of friction of mind against mind in amicable discussion liberalizes and enlarges the scope of each, and no sphere thus far discovered furnishes so fertile a field for the advancement of the profession generally of our state as the New Hampshire Medical Society. That we live in an age of organization no one pretends to deny. Societies exist on every hand. Every circumstance in life has its representative, and a man to-day may owe his position, civil, social, and professional, to his standing among some one of the legion of fraternities. Theology, law, agriculture, mechanics, science, each has its brotherhood, and why not the medical? Physicians should identify themselves with the profession in all matters of public medical interest, and especially so when held to consider public dangers, as the staying of epidemics, etc.

"Human character," said a writer, "is represented by three essentially different characteristics, viz.: That which a man is, that which he would like to be, and that which he would like to have people think he is." The typical physician represents the two first characteristics when he adds his name to the long list of co-workers who are ready and willing to stand shoulder to shoulder in carrying on the great work, raising the standing of the profession until it shall not only be the most respected system of medicine, but the only one which the intelligent and thinking people will accept as worthy of confidence. The third class is represented by a very large number. A field as broad and fertile as this needs a larger scope than the design or limits of this paper admit. Another great work in which the profession of to-day are engaged is the effort made in various ways for the *prevention of disease.*

Men generally no longer believe that all disease is brought about by the direct and special agency of the Deity, and therefore no longer look upon preventive and curative measures as blasphemous interferences with the will of God.

In Cook's Hand-Book to Venice it is stated that in the church of Santa Maria at Venice there is a beautiful group of marble representing the virgin banishing the demons of the plague,—the church itself being the result of a covenant to erect a memorial in honor of the virgin as soon as a plague there prevailing should be stayed. It is stated that on the same day the covenant was entered into by the Doge Contarini and the Patriarch Tiepolo, the plague ceased.

Men believed this story of miraculous intervention for ages; but another age and a new era have dawned upon the intelligence of the world, and it is now known that the great decline in pestilence during this century is because increased knowledge has brought about a better condition of communities, and not because of fortuitous circumstances outside of man's control.

In a late work published in New York on Hygiene and Public Health, Dr. Billings states "that we do not know to what extent the prevention of disease, the prolongation of life, and the improvement of the physical and mental forces in man may be carried, but we do know that much more may be accomplished in this direction by putting in practice the knowledge already acquired of the laws governing health and life. We do know that every year in the United States tens of thousands of lives might be saved; that a much larger number of cases of sickness occur which might have been prevented; that a vast amount of unnecessary impaired health and physical disability exists among those not confined by sickness; and that means exist within our reach for their removal.

"History," says Virchow, "has more than once shown that the destiny of a nation depends upon its condition of health and energy, and it is plain the pathological history of a people is inseparable from its civilization."

Says another,—"Civilization has driven the plagues of the middle ages out of Europe. Knowledge is progressive, and before it there has been a steady retreat of epidemic diseases."

The intelligent, thinking minds of the day, those who wield

the sceptre with evidence like this before them, and with all the experience of those who have had ample opportunity for the investigation of the cause and prevention of disease of the present age added, did they, like the Levite of old, pass by on the other side, they would be guilty of criminal negligence.

For several years the necessity of an organization of some kind for the purpose of more thorough inquiry into the causes and propagation of disease has been seriously admitted, and in the year eighteen hundred and eighty-one, in accordance with the demands of the times, the State Board of Health was organized, with a sufficient appropriation from the state to insure success, at least financially. That the board is engaged in a great work, and the officers thoroughly competent to carry it on, no one doubts after carefully reading the first annual report.

For such evidence of progress the medical profession have reason for congratulation, for it is owing to their efforts that the people are becoming aroused to the importance of these questions concerning their health and their lives, and that a public sentiment is being created that demands of those vested with the authority of government a recognition of the claims of scientific medicine, and a provision by the state of means for carrying to practical results the recommendations made for the preservation of the people.

The prophet Nehemiah, to whom allusion has already been made, while engaged in the great work of his life, was not unmindful of the difficulties which beset him on every hand, nor of the snares which had been placed along his pathway by his wicked and ingenious enemies. The experiences of this ancient prophet accord with the experiences of every age, of every order, society, and individual, living from that day to this.

Opposition is of necessity an integral part of life, as is success. Says a writer,—"Every animal, and in fact all living things, have their natural parasite." Experience teaches that the medical profession is not an exception. As to the order and name of this class of vermin I think there is no dispute: imposter, and quack have been the terms generally selected by writers when referring to this class, either as foes without or foes within. Webster describes the quack as a boastful pre-

tender to knowledge that he does not possess, an imposter, etc. Another writer uses a broader meaning, and says that any man who attempts to practice medicine without being well grounded in the fundamental facts underlying an intelligent practice, or when a physician is competent, if he is guilty of irregular practices and resorts to illegitimate methods to obtain practice, he belongs to the above order. He starts out in life with good prospects,—but, like the wasp, is larger when he is born than ever afterwards,—arrives to the full height of his professional manhood in life, then begins to die, and soon becomes professionally mummified.

The modern quack may answer the description given, but he is generally acquainted with methods, and understands tricks that are dark and vain, for which he is peculiar. His advent is like the tornado, a great blow precedes the desolation sure to follow. The leading newspapers of the day contain his advertisement, and fail for lack of sufficient space to publish the thousands of testimonials which are duly received of cures performed after being given up by the regular profession. He is also a growing man in his own estimation, and, as he wraps the mantle of self-conceit about him, his pellucid vision sees evidence in the demands of the times of a better acquaintance with those in affliction, and the inevitable results which will certainly follow if he is not interviewed. Therefore, to avoid all mistakes, just above these gilt-edged miraculous cures may be seen his photograph. That the human family are lovers of imitation none will dispute: men love notoriety: it is the quack's chief subsistence.

In the larger cities, in a room set apart for the purpose, may be seen suspended from the walls the photographs of men who have been convicted of crime: all classes and ages may be there seen. Thieves, highwaymen, train robbers, burglars, and a few of the many abortionists who ought to be there represented, are among the group that makes up the rogues' gallery. These pictures of wicked, dangerous men, who are unfit to enjoy the blessings of liberty, are the safeguards of law-abiding people and communities.

Evidence is not wanting to prove that instances are not remarkably infrequent when men have pointed with pride to

their "photo" on the wall, thereby gaining a pseudo notoriety. Yet a summary of their nefarious work is decent and respectable when compared alongside of that of the quack. Said a writer at one time when referring to this subject,—"It requires courage of a peculiar kind to burglarize a house or a bank, and a much higher order to rob a train, but very little is required to rob a sick man. A nature entirely selfish, and a heart devoid of pity, include all the essentials."

This love of notoriety resorted to by advertising swindlers of the day,—whose wonderful exploits and still more wonderful photographs are to be read and seen in a majority of the public press,—had its outgrowth in a desire similar to that which prompts the rogue to point with pride to his "photo" all nicely framed in the gallery of crime. Love-of-notoriety sympathizers with this class have asked those in general court assembled to take from the statute law of our state what they term the doctors' law, and allow them to run riot, with no redress but the law of silence, which practically winks at ignorance. Why a medical swindler should enjoy the sympathy of the law more than a swindler in any other calling or station in life remains a subject for still further discussion.

Acute observers are responsible for the statement that our profession is not only subject to the assailment of foes without, but far too frequently suffers disgrace from foes within.

Self-abnegation under all the circumstances of life is not the most pleasant position to occupy, yet to acknowledge that the per cent. of suits for malpractice that come to our knowledge usually have their origin in some doctor's brain who generally takes the non-success at heart more acutely than the injured one, would be to admit a fact generally acknowledged. Experience teaches that the origin of these suits is based upon malice, generally speaking.

The deformed and unsightly limb, accompanied with a doleful story of the most intense suffering on the part of the patient, is displayed before the sympathizing public. Days come and go, and the patient drifts into one of the larger hospitals: the attending surgeon breathes easier; for from those who taught him his early ethics he has a right to expect at least fairness, and, if necessary, an opportunity to be heard. But the patient

returns: the sympathizing doctor smells the battle afar off, and visits the *great* sufferer. How they love each other! A long and formidable array of opinion is unrolled with remarkable solemnity, the case is discussed,—one side, at least,—and the document ends with a certificate appended, written with a bold hand, accusing the attending physician with criminal negligence.

This fact alone has very largely contributed to a few, at least, of some of the cases of litigation that have occurred within our knowledge. Is this an overdrawn picture? If so it may still have the semblance of truth. That cases of unquestionable ignorance do occur within our limits no one pretends to deny, while on the other hand obstinacy and ignorance, coupled with stubbornness and stupidity on the part of patient and sympathizing attendants, are not remarkably infrequent causes of the lack of success.

Far too frequently in this unequal war for plunder is the reputation of a physician blighted, his hopes and aspirations checked, and he made a target for the missiles of the unscrupulous and unprincipled, because in the hour of trouble he suffered desertion on the part of friends, and the public thereby taught to believe that physicians are never happy, unless, like the cannibal, they are engaged in killing each other.

New Hampshire has its quack and always will have, at least so long as humanity is ready to sacrifice position, honor, integrity, all for a dollar. Our friends of the clerical profession sometimes complain of a growing opposition among medical men, which tends to interfere to a greater or less degree with their mission. Our profession is accused of infidelity, and reference is made to it as the growing evil of the age.

One of our modern writers is responsible for the following: "One of the greatest of all wonders is, that wisdom in law or theology, or perfection in the sciences, or skill in the arts, or acuteness, even brilliancy in other departments of human knowledge, scarce increases some people's reasoning powers a single jot in medical matters. Why any person can be one of the wisest of men in all else, and an easy prey to quacks and sophistical pretenders as soon as sickness attack him or his, is a very curious physical enigma."

An extended discussion of a subject like this would require the exercise of the broadest charity. The physician may prove skeptical of him who with one hand points to the elysian fields in the portals beyond, where the wicked cease from troubling and the weary are at rest, while in the other he holds up before his people the quack medicine and endorses its virtues in the leading periodicals of the day by his signature. When they twain become one flesh, legitimate opposition commences.

To assume that all belong to this class would be to occupy a dangerous and unwarranted position. The physician, and the "great work" in which he is engaged, have always enjoyed the confidence, support, and sympathy of the genuine men of the clerical profession from time immemorial, and do to-day; and the time will never come when an upright, honest, Christian gentleman will fail to receive the hearty support of the medical profession.

It has been said that the flesh is heir to a thousand ills: if so the profession of to-day can offer a thousand remedies, all new and untried. Many are the changes made in this branch of our profession, with what results the future is to determine.

The manufacture and sale of fluid extracts, elixirs, etc., with the names of the legion of diseases of which they treat, and special indications as to dose and symptoms, are not confined to special forms, but are to-day indulged in by nearly every apothecary; and the question of the future will be, whether or not the profession is not fast becoming auxiliary to medicine manufacturers, or, in other words, whether or not the physician's work of the future will not be confined strictly to diagnosis, while the patient is treated by the apothecary from the miscellaneous collections on the shelves of almost every pharmacist of to-day.

A visitor to a wholesale drug store would have occasion to "bless the Lord" that there are other worlds than this, which fact has a soothing effect upon the superstitious fears of those who believe that the accumulation of medicine will ere long make existence intolerable on account of limited space.

Another evidence of progression is the revelations made during the last few years in the fields of surgical literature. The treatment of wounds, the new and improved methods of

operating, the care of the injured, the treatment of fractures, and the successful results attained, together with the aggregate lessening of mortality, testify to the progress of the age. The sophistries and pseudo reasonings of the past have given way, and a broader and a more intellectual field has been brought into view. The library of the surgeon has received many valuable additions during the last few years. Theories, which for a long time have been adhered to with wonderful persistency, have given way to logical reasonings, resulting from investigation.

Of the many ideas which the farther discussion of those subjects suggests time forbids, yet the importance of unity of action and a jealous regard for our reputation as a progressive profession cannot with safety be overlooked, and whether united or not we shall still exist as a profession, so long as man is subject to accident and disease. We shall form an integral part of the state, but the effect and prominence of that part will depend upon our individual integrity or wisdom in deliberation, and our unity of action when our deliberations have closed.

"Gentlemen, great as has been the increase in medical skill and knowledge, and rapid as has been the progress of our profession of late years, there is, with reference to your acquisitions and attainments as to all things human, a point where finite wisdom stands abashed, and a solemn and mysterious darkness prevails, into which reason would pry in vain, the glimmer of her lamp only serving to make the darkness visible. You may become more and more familiar with man's physical nature, more and more expert in preventing and relieving his multiform maladies, and thus as benefactors of his race augment his sum of happiness and prolong his lease of life. But "dust to dust" is the irrevocable and universal doom, and sooner or later the inevitable hour must come to each and all, when remedies are powerless, and all the appliances of our art must fail, and when the wisest among you, as he notes the fluttering and receding pulse, the glazing eye, and the last expiring breath, is compelled to concede as to that enigma we call life, whence it comes, how it exists, and whither it goes outside of revelation, we know absolutely nothing, and so, after all, with a humiliating consciousness of the scantiness of our actual knowledge, we must

all bow before the Great Physician whose power is omnipotent, whose wisdom is infinite, whose prescriptions are infallible, and with whom alone is lodged the great secret of life, both as to the life that now is and that which is to come."

THE BEST MEANS TO PREVENT THE SPREAD OF SMALL-POX.

BY T. J. W. PRAY, M. D., DOVER, N. H.

Humboldt remarks that there is no subject of scientific inquiry more obscure than the laws which control epidemics. They often seem under no restraint. They surmount all barriers, and move unseen in the air, or by means of human contact, giving no warning of their approach, nor of the extent of their terrible devastations. All that we know are some of the conditions which govern them in their visitations; but why they are so destructive at certain times, or so universal during some seasons, attacking all classes of society, we probably may never ascertain with precision. Experience shows that certain meteorological changes, such as cold, usually favor their development;—but what there is in cold that tends to their propagation is merely conjecture. Happily, through the research of the medical profession, some of the sanitary laws have been so investigated that we can check, and in a great measure prevent, their ravages and cruel death-work.

Take, for instance, variola. So completely are the conditions which favor its spread understood, that, if the appliances at our command be properly and thoroughly used, we are able to set metes and bounds to its rapid growth. But within a few years past, and even in the recent attempts of the legislation of Massachusetts to prevent the enforcement of the laws in regard to vaccination, and from the senseless opposition of other persons in other states to the use of kine matter, there has been not only skepticism in the minds of some as to our complete control over variola, but a desire to put aside its benefactions. There are

a few who pretend to assert that while cow-pox affords some protection by rendering small-pox less destructive, yet it is positively asserted that the discovery of Jenner is not only inhuman, but the risk of transmission of other diseases is so imminent that it is quite as well to abandon vaccination altogether. Of course there are not a few who are more or less influenced by these unintelligent anathemas, and it is with difficulty that our profession can do away, in the minds of some of the laity, the bad influences which ignorance and prejudice have begotten. Against this seeming unbelief and uncertainty, prevalent more or less since the commencement of the present century, we shall prove that rapid strides have been made towards banishing small-pox from society; that the susceptibility of the human system to its infectious influences has sensibly diminished under the practice of vaccination,—and this has been accomplished within a comparatively recent period. Our subject is, *What are the best means to prevent the development of small-pox?*

In answering this question intelligently we shall be compelled to reiterate what is already known, to refer to information quite familiar to our profession. Our design will be to collate facts scattered here and there into a more concise form, and thereby show that we have powerful weapons with which to battle this terrible disease, and may secure even greater immunity from its attacks.

There has been an agreement generally in the means to be employed; but of late, owing to the prevalence of small-pox in the more populous places and cities of the United States, many are perplexed at its seeming unmanageableness, and some have expressed their opinion, both in public print and in private practice, that the only safeguard against its encroachments lay either in the introduction of variolous matter into the human system, or in adopting a do-nothing policy. We propose to examine the merits of both inoculation and vaccination, claiming that the latter is the best, safest, and most efficient of all preventives against the development of variola,—that with proper care in the selection of genuine vaccine virus, and suitable attention to the vaccinating process, together with the enactment

and enforcement of fitting and beneficent municipal regulations, we shall gain the object desired, and shall be able to control one of the severest diseases which "flesh is heir to."

INOCULATION has long been known to the civilized world. It was once called "buying the small-pox," it being believed that the operation would not produce the desired effect unless the person from whom the matter was taken received a piece of money or some other present in exchange. It was early in the seventeenth century that it was generally introduced into western Europe. The process consists in the application of variolous matter to the surface of the corium. After a few days a local inflammation is induced, not severe; and the constitutional disturbance is so slight that the patient in most instances is confined but a few days to his room. Of course there may be marked exceptions to this rule. The individual thus inoculated has security, not absolute, against the attacks of variola, and is seldom its subject: perhaps no more so than one having the original ailment, although this may not be sufficiently proved. One would suppose that the introduction of this infectious matter into the system would produce small-pox itself. It is an unexplained phenomenon that this disease, so uncontrollable when taken into the system through the lungs, becomes thus disarmed of its virulence.

When inoculation was first discovered, many eminent physicians, both in this country and in Europe, at once advocated its use. Dr. John Warren, of Boston, was among its ablest supporters, and was one of the foremost in the United States to test its virtues. Soon all classes of society were eager to obtain the protection claimed. It was thoroughly tried, and its capability to prevent small-pox was acknowledged. After years of trial it was established that the inoculative process was not void of danger; that instead of confining the disease to any particular locality, it kept up a constant source of contagion. Any one who listed could start small-pox in any direction. A bit of cotton thread or other substance dipped into variolous matter was sufficient to set the disease in motion. Foci of contagion were multiplied here and there, for it was soon discovered that those inoculated were as susceptible of disseminating the contagion as those seized in the natural way. Places which other-

wise might have been exempt were more frequently visited. Had inoculation been general, the result, of course, would have been different.

After fifty years of trial, the death-rate from small-pox had considerably increased. It is stated by Dr. Heberdeen, of England, that out of one thousand deaths from all causes, during the first part of the seventeenth century, before inoculation had been much practised, seventy-four were from variola, and in an equal number of years in the latter part of that century the mortality was ninety-five in one thousand deaths, showing an increase in the proportion of five to four. Then, if we examine the epidemic character of small-pox we shall find an increase during this period. Take the ninety-one years previous to its use in Europe: there are put on record sixty-five distinct epidemics, equal to the ratio of seventy-one epidemics in one hundred years. After the introduction of inoculation, statistics show that in sixty-three years there were fifty-three distinct epidemics which were well marked. This is equal to the ratio of eighty-four in one hundred years, being an increase of thirteen in every century.

Again: it was discovered that the process of inoculation, though generally successful, did not always afford entire protection; for some inoculated persons were liable to an attack of variola. Such facts and statistics soon determined many governments to abandon inoculation altogether. In England and Ireland it was prohibited by law; and in France, in consequence of the multiplication of contagious influences, a royal decree, in 1763, prohibited the practice. In the United States similar results were witnessed. It produced the same epidemic influence, and the like increase of fatality; but since the discovery of vaccination it has seldom been resorted to. Instances of its use within the last forty years are, however, on record. In 1850, at Mobile, Alabama, families were inoculated in the absence of vaccine virus.* This was justifiable, because small-pox being so fatal, the physician should allow no opportunity to pass of lessening its ravages, or checking, if possible, its tendency to spread.

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*See Boston Medical Journal, No. 43, page 248.

One other interesting instance* of its value in certain contingencies occurred in 1852 among the Sacs and Fox Indians. It is well known that small-pox has been very fatal among the aboriginal tribes of North America. At this time it had broken out with great violence, and one hundred and ten deaths had already occurred. The Indians were persuaded to submit to inoculation, and about fifteen hundred were then inoculated. The result was that the disease was stopped, and no one became infected who was subjected to this process.

In the majority of the states† there is no positive law forbidding inoculation. The unanimity of the medical profession in favor of vaccination, to modify and control small-pox, has not made it imperative for legislative bodies to inhibit its use by public statute. Soon after the discovery of vaccination, inoculation was abandoned for the milder and yet as certain protection found in vaccine virus.

VACCINATION.—It is now nearly eighty-seven years since Dr. Jenner first promulgated to the world the discovery of a process by which any one might be protected against small-pox without danger to himself, and without risk of infecting others. Before this, death had been busy in his fearful work. Epidemic after epidemic had visited not unfrequently sparsely settled hamlets and populous cities only to sweep from society all classes. It visited alike the stately mansion and the humble cottage. None were safe from its ravages. Macaulay,‡ in his History of England, speaking of this disease at the close of the seventeenth century, termed it "the most terrible of all the ministers of death;" "that it was more destructive than the plague, for that scourge had visited England but twice within living memory, and the small-pox was always present, filling the church-yards with corpses; tormenting with perpetual fears all whom it had not stricken; leaving the hideous traces of its power; turning the babe into a changeling, at which the mother shuddered; and making the eyes and cheeks of the betrothed maiden objects

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*See Boston Medical Journal, No. 45, page 247.

†New Hampshire makes inoculation punishable by a fine of $150. When small-pox appears in a family, inoculation may be used in that family by permission of the Board of Health. (See General Statutes.)

‡See Macaulay's History of England, vol. 4, page 434.

of horror to the lover." The ravages of small-pox were beyond conception. The description of every man and woman at that time shows them to have been more or less marked with small-pox, or speckled with "pock-holes." Not only so, but so fearful was its death-rate that out of every million of inhabitants in England, three thousand died of this disease. In Glasgow, from 1783 to 1792, when vaccination was about to be made known to the world, thirty-six per cent. of all the deaths, under ten years of age, came from this pestilence alone. Other countries point to similar results. In our country, at this time, owing to its vast extent, and the sparseness, comparatively, of our population, the disease perhaps was not so destructive; and yet our countrymen were not free from this scourge. The history of Boston informs us that there were often extensive and destructive epidemics as early as 1702. At one time it was estimated that nearly one twentieth of its population died of this disease. In 1721, between eight and nine hundred were stricken down and died. In 1752 the mortality was very great, nearly one in twenty-eight of its inhabitants succumbing to the disease. Such is the sad history of variola everywhere before the discovery of vaccination. The spectacle of its great mortality and sad havoc is indeed a horrible one, and we, at this day, can hardly realize the transition which we enjoy at this time. Fortunately for the world, Providence was raising up a man,—Dr. Jenner,—through whose researches and investigations a better state of things was to exist. This gentleman was pursuing his preliminary studies near Bristol, England, when rumors came that dairymen and farmers, while milking their cows, were often seized with a local disease which exempted them from small-pox. These rumors were very vague and uncertain, and yet, coming as they did not only from his own countrymen but also from the Continent,* he felt assured there was some ground for their validity. He set at work to trace out the origin of these reports, and to learn their truthfulness. His investigations continued year after year, and at last his genius conceived the idea that cow-pox, transferred to the

*There is found in a Gottengen newspaper, of as old date as 1769, the Allgemeinen Unterholtungen, a disease often seen there, of milkers being affected by it, and protected thereby against small-pox.

human subject by the process of inoculation, would afford protection against small-pox.

He sought the opinions of other physicans, among whom was the celebrated John Hunter. But this gentleman, otherwise sagacious and farsighted, ridiculed the claims of Jenner as chimerical and improbable; others derided his theory and "false reasoning." But this did not daunt him. He labored on, and soon the opportunity came to verify his theory. On the fourth of May, 1796, he made the first attempt to vaccinate. He selected a young lad by the name of John Phipps for his first experiment. It was successful. The boy was afterwards exposed to the infection of small-pox, was inoculated with variolous matter, and no trace of this disease followed. He was safe, and properly protected.

His discovery was confirmed so far as this one experiment went, but still he pursued his researches, vaccinating all who could be persuaded to lay aside their prejudices against vaccination. In 1798, he published his observations on cow-pox in a small pamphlet of scarcely seventy pages. This unpretentious essay proclaimed to the world one of the most beneficent safeguards against disfiguration, suffering, and misery, ever discovered by man. Every year since, its importance has been demonstrated and its utility established; so that the name of Jenner should be placed high upon the roll of fame as a public benefactor. It is through him and his laborious investigations that a loathsome disease has been visibly checked, and the health of the human race improved. In proportion as vaccination has been pursued, in that proportion has the terrible mortality from small-pox been lessened, and the duration of human life prolonged.

Let us briefly examine a few of its excellent results. There has been comparative safety for those having had the vaccine disease against the invasions of small-pox. In Germany and England it has been found that out of one thousand deaths from all causes, in the half century from 1800 to 1850, only thirty-five in a thousand died of this disease. In the former country, where the government directs that every child at an early age shall be vaccinated, out of one thousand deaths only 7.26 were from variola. Before this, as we have stated, one

died out of every three seized; now, under the operation of the vaccine disease, only one or two per cent.,—and this fatality is, in all probability, the result of imperfect or false vaccination.

But this is not all: there are fewer epidemics. Since the discovery of vaccination there have been from fifteen to seventeen epidemics, equal, nearly, to twenty-three epidemics in one hundred years, being a decrease over the previous one hundred years of sixty-one. In the armies and navies of England and the United States, where the soldiers and seamen were efficiently vaccinated, epidemics scarcely ever occur.

Perhaps we shall find the best results of vaccination if we examine the army statistics of these countries.*

For twenty years, from 1817 to 1836 inclusive, in the Dragoon Regiments and Guards of England, numbering 44,611, in a mortality of 627, only half of one per cent. were from small-pox; at Gibraltar, number of men 44,611, and the total mortality 1,291, only one from variola; in the West Indies, where small-pox was often epidemic, out of a force of 86,661 men, and the number of deaths 6,803, not one was from this disease; in Malta, from 1818 to 1838, the number of English force being upwards of 40,000 and the mortality 665, only two deaths were from small-pox. During this time, viz., in 1830 and 1838, the disease was epidemic over the entire island. One in 4.7 unprotected by vaccination died. Among the military, including wives and children, only one in 188 sickened, and the mortality one in 682. In the United States army,† from 1839 to 1860, the aggregate strength being 120,622 men, there were 134 cases of variola, and one in 8.9 died. Of varioloid there were 115 cases and two deaths, not quite two per cent.

We have records of the value of vaccination in some of the different cities of the world, but one of the most interesting is that related by M. Bousquet, in his *Traite de la Vaccine*, as having occurred in Marseilles during an extensive epidemic of small-pox in 1825. Of a population of 40,000 divided into three classes, 30,000 were vaccinated, 8,000 were neither vaccinated nor variolated, and 2,000 had had small-pox. Of the

* Records of Army and Naval Medical Departments (England).

† See Medical Statistics of the U. S. Army from 1839 to 1860.

vaccinated, 2,000 had variola, and twenty cases were fatal, or one in every 100 affected; of the unvaccinated, 4,000 sickened and 1,000 died, or one in every four; of the variolated, twenty were attacked and four were fatal, being one in every five cases.

Again: it can be farther shown that where vaccination is perfectly carried out, small-pox is least mortal. In some countries of Europe, as Bohemia, Lombardy, and Sweden, vaccination is compulsory, and deaths from small-pox vary from two to eight in every 1,000. This is an argument in favor of compulsory vaccination. On the contrary, in those countries where vaccination is voluntary, deaths range from sixteen to sixty in every thousand. Small-pox has the same death rate as in the early part of the seventeenth century, nor has it lost any of its malignity by improvement in medical treatment. Dr. Steele, of Glasgow, states that mortality of small-pox is quite as large as formerly among the Highland and Irish population, where vaccination is rare, and that eighty per cent. of all deaths happens in children under five years old.

There is another feature of the protection afforded by vaccination, which should not be overlooked. The symptoms of varioloid are milder, and the gravity and severity of the disease are less. It converts a disorder usually severe into one, for the most part, slight and unimportant. This modification is various, from a mild febrile affection, without papulation or vesiculation, to a full discrete eruption, bearing some resemblance to the parent disease, yet void of its dangers.

Besides, the attestation of a majority of the medical profession throughout the world is in favor of the protective power of cow-pox, of its high virtue in benefiting mankind, and that it is largely instrumental in preventing small-pox.

If vaccination confers such blessings upon mankind, it is highly important that definite views be entertained as to its true character and appearance. This is essential not only as a matter of diagnosis, but also in order to make proper provision for procuring good and genuine vaccine matter, and keeping a supply thereof. What, then, is cow-pox, as it is termed? Is it a disease, *sui generis*, or is it only a modification of small-pox, rendered innoxious by its transit through the cow? There are adherents to both of these views. One class of investiga-

tors affirm that variolous matter inoculated into the cow produces variola, and that cow-pox appears here and there without any relation to small-pox. Another class equally positive deny that it is a distinct disease from variola, asserting that they are one and the same. This latter view is held by a large majority of physicians. In England it has been the accepted doctrine for the last thirty-five years. But it cannot be overlooked that some French physicians,* as M. Chauveau, M. Viennois, and Meynet, of Lyons, and one or two others, have maintained that cow-pox is not the result of variola; that in several trials to produce the former, nothing but the latter ensued. There is a lack of detail in many of these experiments, and not much reliance can be placed upon them. The fault, probably, was in experimentation. Too old animals were chosen, and there was want of persistent effort in these investigations. There can be no doubt that sometimes the insertion of small-pox virus into animals produces but a local trouble without any specific effects. This may be in the form of a pustular eruption without any modification. Of course, matter taken from such pustules (for this is the name they bear) could only result in small-pox. But against these few experiments we are enabled to place hundreds of cases where success has been reached in the production of cow-pox from the inoculation of variolus matter. Inoculating animals with small-pox virus and producing real cow-pox is very difficult. Failures are more numerous than successes; but it has been accomplished after all. Dr. Basil Thiele, of Kasson, South Russia, in 1836, successfully inoculated kine with the virus of small-pox. Vesicles were produced with all the marks of the vaccine vesicle. Dr. Gasson, of Gönisburg, experimenting on eleven beasts, only succeeded once. He got perfect vaccine lymph, and vaccinated four children therefrom with excellent results. Dr. Babcock, of England, in several cases with lymph taken from the human subject affected with variola, has raised stacks of vaccine lymph in thirty-seven instances.

* There are but three or four published records of the production of these local pustules,—one in the United States in 1860, one at Lyons, and one other in Berlin. The one in the United States is unsatisfactory, as the matter was taken from a person who had died of small-pox. Of that in Berlin no details are given, and, of course, it is unreliable. Two cases of original pustules are supposed to have occurred.

These thirty-seven successes represent only 7 per cent. of the experiments undertaken. Productions of real cow-pox lymph, after the success of Ceeley, were obtained in 1852 by Drs. Adams and Putnam of Massachusetts. Other instances might be cited, but these must suffice. There can be no doubt, then, of the identity of cow-pox and small-pox, the former being only shorn of its infectious nature by passing through the cow. Probably a large quantity of the vaccine virus now in use comes from such sources.

Such being the origin and nature of cow-pox, it is quite necessary to be able to distinguish it from other eruptions in animals. Let us briefly enumerate some of the characteristics of the variola vaccine. It is an eruption, existing sporadically, or as an epizootic, found in its natural state on the teats and udders of cows. It is never seen in the human subject, except as the result of inserting its virus into the skin. It is capable of being reproduced and multiplied during the course of the malady in the cow. Young beasts, especially those giving milk, are more susceptible of the disease than older animals. In its earlier stages, it is attended with so little local disturbance as hardly to attract the attention of the milkers. The primary symptons are heat, swelling, and tenderness of the udder. There is but little constitutional disturbance or loss of appetite. The disease is first noticed by the appearance of small papulæ varying in number from one to twenty, and generally about the size of a pea. This is denominated the papular stage, and occupies about four days. From these form vesicles with a depressed centre, differing in color, and partaking of the hue and texture of the animal's skin. Those vesicles are surrounded by a narrow areola. Usually the disease reaches its acme about the tenth or eleventh day, and then follows the period of incrustation extending six or seven days longer. If an examination be made of these vesicles, it will be found that in their structure they consist of numerous cells "arranged in concentric rows separated from each other by a thin film or partition, and then are united at their convergent extremities by a central membranous band." In these cells is contained a clear viscid lymph, which is used for vaccination. This cellular formation is essential and diagnostic,

and forms a striking peculiarity of the cow-pox. But spurious vesicles are often observed of a far different character. Dr. Robert Ceeley,* surgeon of the Buckinghamshire Infirmary, England, mentions three different kinds of pock, which he has named the yellow pock, bluish or black pock, and the white pock. The first is noticed by a pustular eruption, resembling ecthyma on the teats of cows, and this is succeeded by a thin dirty brown or black irregular crusts; the second, in dark livid vesicles, followed by irregular black crusts; and the third, the white pock, is not so easily distinguishable from the true vaccine. White pock is highly contagious among milkers, quickly communicating its poisonous and irritating qualities, and causing vesications and deep ulcerations. It is quite probable that it was this spurious kind which was seen by Dr. J. Crosby, of New Hampshire, a few years ago, and which turned out to be of an unprotective character. A child was inoculated therefrom, but no protection was afforded, as the little one had afterwards a mild type of variolous disease. It is not, however, difficult to form a correct diagnosis of the genuine vaccine pustule or vesicle, if we bear in mind that its structure is cellular, its feel hard and knotty, its appearance glistening, its changes into the vesicular form progressive, and that there is a central depression and a late acumination. No doubt that many cases of small-pox have arisen from a want of caution in learning the true nature of the vesicle from which the matter is selected. It is no trifling task to get liquid vaccine matter. It should be taken when it is clear, and the vesicle is firm, translucent, pearl colored, and before it has arrived at maturity. Perfect pointed vesicles should be selected where incrustations have just commenced, or those which bear all the typical marks of a genuine nature. Matter, after the vesicles begin to turn dark, is often thin, abundant, and unreliable. It is before acumination that the vesicle yields the best lymph, and is generally more abundant on the teats than on the udder.

Now this lymph can be passed through a succession of ani-

* Dr. Ceeley has written the best description of cow-pox, and it is from him we have the best account of the disease and the varieties of spurious pox. His description we have followed.

mals and then transplanted to the human subject, but its effects depend upon the number of transmissions it has undergone. Its irritation at first is very considerable, but after several transits through animals this state subsides; it is rendered milder and less irritating. It then becomes fit for use in man. After going through the human system, it becomes humanized. Animal matter produces vesicles not so fine and so well developed as human, and its course in the human subject is frequently retarded, and "is much less successful than vaccination with humanized lymph."*

At the present time there is a great demand, among all classes of society, for non-humanized cow-pox virus. The only case of spontaneous cow-pox, where most of the matter now in use is obtained, is said to be that discovered at Beaugenay, in France, in 1866. It is claimed for this that it has never been humanized; that inoculations in healthy calves are made as often as once or twice a week to keep up a supply. From its history it is maintained that animal virus is at least as successful as humanized lymph; that the protection from such inoculations is not inferior; that the inflammation is no greater, and the local effect no more severe; that it enables a careful vaccinator to be certain that he runs no risk in conveying, in his vaccinations, syphilis, or other taints. It is this fear of spreading syphilis, and perhaps scrofula, that has popularized animal matter in this country. We judge that its protective power is but little greater, and if there is carefulness in the selection of humanized lymph the latter is quite as acceptable. The local effects of animal lymph are often acrimonious, much more so than humanized lymph. Besides, the papulæ and vesicles are not so often typical, and there are grave doubts whether the great success in revaccinations, claimed by some, may not be due to the irritative qualities of animal lymph, which it is known to possess. But so great is the prejudice in some minds against humanized lymph, and this leads to neglect of vaccination, that we are of the opinion it is highly proper to leave the choice of matter to those to be vaccinated.

There is one other aspect in favor of the use of animal mat-

* Dr. E. C. Seaton, of England.

ter that cannot be too highly estimated. This is the matter of lymph supply. The abundance of vaccine matter, derived in this way, will often meet such exigencies as epidemics of small-pox often bring. Dr. Frank P. Forster, of New York, states that in answer to a telegram from Baltimore, Md., he was able in a few hours to send six thousand vaccine quills of pure and fresh matter. Such expedition could scarcely be from the selection of humanized lymph.

We would observe here that natural cow-pox is not so often found as in the early part of this century. The reason obviously is, there is less of small-pox now, and the opportunity for animals to become infected with it is very much lessened.

Next in importance to the knowledge and selection of genuine vaccine lymph, is the process of vaccination. When, then, is vaccination successful? and what is requisite to pronounce a person properly protected? The best way to answer these questions intelligibly is to turn to the vaccine disease as seen in the human system, and describe its phenomena. The place usually selected for vaccination is about five or six inches above the elbow of the left arm. The vaccinator should make punctures, or scratches, with a pointed instrument, in three or four places near each other, being careful not to draw blood. Then the vaccine virus is to be applied so as to be absorbed in the punctures or scarifications. In the course of five or six days slight papular elevations are observed. These increase in size, and from the sixth to the tenth day form into vesicles having raised edges, with a central cup-like depression. These vesicles have the same anatomical structure as those of the cow, being cellular, and usually attain their highest perfection about the tenth day. As they mature, a ring of inflammation, termed the areola, begins to spread around each vesicle. This is of various dimensions, extending from two to four inches in diameter, and bearing the appearance somewhat of erysipelas inflammation. It is often attended with itching, sense of heat, swelling of adjacent tissue, and an uncomfortable feeling around the affected part. This areola is always an attendant of cow-pox, and is one of the best proofs of its specific effect upon the system. While this areola is forming, there are constitutional effects, such as restlessness, increased temperature, acceleration of

pulse, derangement of the alimentary canal, together with an enlargement of the axillary glands. If these symptoms are slight, or absent, and the areola partially developed, then there is reason for doubting the genuineness of the vaccination. After the eleventh day the vesicles begin to change to a dark color, scabs begin to be observed, and from the twentieth to the twenty-third day these incrustations separate, leaving behind cicatrices, permanent, almost always circular in form, depressed, foveated, or indented, with small minute pits. A well foveated cicatrix is one of the surest marks of perfect protection. We doubt if a person can be said to be properly vaccinated who has no pits in the cicatrix.

In vaccinating, it is imperative that certain rules be observed. And first: There should be the greatest care in the selection of genuine vaccine virus, whether it be animal or humanized. It should be perfect in character. Every case should be scrupulously observed, and every sign which tests the efficiency and purity of the lymph should be carefully watched,—whether the vaccine vesicle has been unduly hastened, or has become irregular in its development, or in its undue local irritation.

Lymph that produces any irregularity must not be selected. Every physician should consider himself strictly responsible for the quality of his lymph. He should avoid all vaccine matter where there is any eruption of the skin. Lymph from the human subject is most perfect when the vesicles begin to form. Those which are well characterized, plump, and uninjured, are the best. Lymph should be taken just before the formation of the areola, and never later than twenty-four hours after it has begun to form. Vesicles from revaccinated persons are unfit.

If incrustations are desired, those thin, semi-transparent, and not made up of inspissated pus, are preferable. Indeed, the latter often fail in giving proper results. They communicate the irritative and oftentimes unhealthy qualities which existed in the imperfect vesicle to another. There cannot be any doubt that there is often failure in the protective qualities of certain kinds of vaccine virus. Much of this imperfect matter has been and is now in use, and of course the system is not thoroughly permeated with the vaccine disease, in consequence of the degeneracy of the vesicle from whence the matter

came. In certain instances the process of vaccination runs through its course in a hastened manner. Spurious vesicles are formed, and instead of a desirable formation, sloughing, ragged sores are seen, bearing none of the characteristics of the vaccine scar, but leaving behind a puckering, or flat, smooth, shining surface. In some few cases erysipelas springs up, thereby obscuring the true character of the vaccination. All such deviations make those thus vaccinated liable to the severity of small-pox.

Then, again, mechanical interference destroys the protection. Friction of the clothes, or any irritation which materially obstructs the course of the vesicles, affects their genuineness, so that the careful vaccinator often is unable to tell how much protection is communicated. Not unfrequently, in such doubtful cases, vaccination afterwards goes through its regular course as if nothing had been done. The first vaccination was entirely fruitless. But from this imperfect virus the worst follows. Others are often vaccinated from such sources, and insufficient protection ensues. Badly selected lymph does not generally stop with the first insertion. It passes from one to another, and its imperfection is multiplied in every direction.

Dr. Seaton, on this point, observes,—"Some two or three years ago I saw nine children who had been vaccinated the day-week previous, in each of whom the vaccination was running an irregular course. I found on inquiry that they had all been vaccinated from one source, and that source, from a description of it, ought not to have been employed—a case where the lymph was thin and serous, running down the arm in profusion when the vesicles were opened." Such instances are not infrequent, especially when the demand for vaccine virus is so great as it often is in sudden outbreaks of small-pox.

Again: vaccine matter is taken from the cow, and the human subject, where humors exist. All physicians must have observed within the last few years the excessive irritation caused in numerous instances from bovine virus. It lies in the character of the matter, and we have often thought that it was due to animal poison. Virus, exposed to the air until putrefaction occurs, would tend to these deviations and terrible results. All

bovine matter cannot be trusted; and where irregular results are found, it must be due to bad matter. Not every sore by the insertion of matter is genuine vaccination. There are many instances of imperfect protection, or none at all, by the use of such virus. Often affections, like herpes-intertrigo, do coexist with the vaccine vesicle, and the regular process is materially interfered with.

1. A febrile state of the system, as from a cold or other disease, is apt to hinder the growth and progress of the vaccine vesicle altogether. Sometimes one will observe vesicles straying from the regular course, and there seems to be a lack of growth and symmetry. Such are always suspicious. Hence it may be considered a good rule that any papula or vesicle deviating from perfectness, or in any way obscured by mechanical irritations or coexisting with any bodily humor, can never be trusted as safe or trustworthy.

2. There should be more care in making the primary vaccination perfect. The whole history of the vaccine disease, from the first to the last, should be carefully watched to see if it runs regularly through its various stages. Then inspections should be at least two in every case,—one at the formation of the vesicle and areola, and the other at the separation of the incrustation, and all deviations noted. The physician should keep a careful record of each case, and make such remarks as are demanded. As it is now, patients often come to the medical man to be vaccinated, and never report afterwards. The former are made sole judges of what constitutes vaccination. Often simple irritations of the skin are numbered by the laity among genuine specimens of cow-pox. Many are ignorant whether the vesicle or areola has been normal, whether the disease has gone along without any deviations. Vaccination or vaccinated, among the unlearned, means but little more than the operation; and if the vaccination does not "take," small-pox can never reach them. They are wrapt in seeming security when danger is constantly hovering around them. One of the severest cases of small-pox we ever witnessed was in a gentleman of forty-five years of age, who affirmed that he had been vaccinated forty years previous. It turned out that he had no cicatrix or other appearance of having had the kine

pox. This unfortunate man, very anxious that his family should have suitable protection, fell a victim, as have many others, to self-delusion.

In 1872 the authorities of a city in New England stipulated with a physician to vaccinate all who wished at 37½ cents each. Some three thousand came to his office, went through the process, and that was all that was required. The physician did not even take the names of the persons vaccinated, nor could he tell how many cases were successful. We need not say that such a course is fruitless in many respects, and that it defeats the design of the originators of such doubtful schemes for the protection of communities.

3. Vaccination has been made a trivial operation. Our text-books scarcely refer to the subject, and if they do, one hardly knows from the reference what the vaccine disease is. Practical education at our schools of medicine has done but little in regard to this important subject. No test of knowledge has ever been applied here. In Europe, so nicely have vaccinators been educated that success is arrived at in a very large percentage of those who submit to the operation. In some of these vaccine establishments there is hardly an instance of failure to infect children brought, and almost always at the first insertion. Many persons having been pronounced "unsusceptible," and having been vaccinated several times by the hands of the unskilful, under the direction of the educated vaccinator are found capable of the vaccine disease. Jenner always insisted, so important was the operation in his mind, that no one should vaccinate unless he had been specially instructed in it. "Although," says Jenner, "vaccine inoculation does not inflict a severe disease, but, on the contrary, produces a mild affection scarcely meriting the term disease, yet, nevertheless, the inoculator should be extremely careful to obtain a just and clear conception of this important branch of medical science. A general knowledge is not sufficient to enable or warrant a person to practise vaccine inoculation: he should possess a particular knowledge, an intimate acquaintance with the character of the true, genuine pustule.* This doctrine, since Jenner's day, has again and again been reiterated, and leading

*See varieties and modifications of the vaccine pustule.

European physicians have been turning their attention to the high importance of having a more thorough knowledge of the whole subject of cow-pox. Vaccinators are being educated for their vocation, and skill and success attend these means.

In the United States, where there has been an awakened zeal within a few years towards this subject of vaccination, still there is not that devotion to it as elsewhere. There is a demand, then, that we should not follow, but keep pace with the progress of the world. .It cannot but lead to a higher appreciation of our duties and responsibilities in this respect; and if there were more practical education here, it would lessen the growth of small-pox. Let us not be understood that physicians among us are indifferent to this subject, but our complaint is that there is not that care exerted that is desirable to ensure success. It cannot be truly said that we have educated vaccinators. Every one engages in it. It is classed as a minor operation, and very often it is of but little importance who performs it. There are but a very few physicians* who can give as the result of their experience, that "with good lymph and the observance of all proper precautions, an expert vaccinator should not fail of success in his attempts to vaccinate above once in 150 times." This is what is termed Marson's standard.† But he exceeded even this. In 1,479 vaccinations in 1863, the operation failed at the first attempt in three cases only.

And in the next place we would remark, that so far as our observation goes we fail in our appreciation of the means at our command to prevent the spread of small-pox. We verily believe that small-pox would be scarcely known if vaccination were well done. Many think that one cicatrix affords all the protection desirable. On the contrary, such is not the fact. One cicatrix, unless a large one, is not sure protection. Three or more well formed cicatrices are preferable. It is certain

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*There have been excellent results, however, in some directions. For instance, Dr. E. C. O'Brien, of Buffalo, N. Y., vaccinated 4,793, and succeeded in the first trial in 4,592 (?), which is more than 88 per cent. Dr. Frank P. Forster, of New York city, reports 824 primary vaccinations, of which 721 were successful. In the inspected cases, the percentage of Dr. O'B. was 100. It is unfortunate that all his vaccinations were not inspected. Dr. S. W. Diver's and Dr. R. M. Otis's, of Cambridge, Mass., percentage was 98.72, 93.72.

† See Medical Chirurgical Transactions, vol. 36, England.

that persons so vaccinated have more constitutional disturbance, saying nothing of the increased local effect. Last year variola was in several families where young children with three cicatrices had free access to the sick, and yet not one symptom of the disease was present. Members of the family who had one cicatrix had febrile symptoms and a varioloid eruption.

Dr. W. B. Davis, in an address before the Cincinnati Medical Society in 1882, says, on this point,—"We may pertinently ask ourselves the question, Do the American physicians introduce sufficient vaccine virus into the arms of patients to fully infect their systems? I have the records of 272 cases of revaccination recently made by myself, wherein I carefully noted the number and condition of the cicatrices of the primary vaccinations. Upon the examination of these records I find that 75 per cent. had but one cicatrix, and that fully 33 of them had very poor cicatrices. Seventy-five per cent. of these being revaccinated were successful, and nearly 50 per cent. took with all the constitutional disturbances, some even greater than the primary vaccination, thereby indicating that the primary vaccination had not been sufficient to thoroughly infect them, and protect them from small-pox had they been exposed to it. My observations, as a practitioner of medicine for full twenty-five years, confirm the truth of the above record, and force me to the conclusion that our American physicians, as a rule, do not introduce sufficient vaccine virus into the arms of their patients. They make but one insertion usually, and while it is possible to make one insertion large enough to give complete protection, nevertheless full 50 per cent. of their vaccinations are so insufficient as to give but little protection."

Dr. Guyton,* superintendent of the Homerton Small-Pox Hospital, London, remarks that "the fatality of those having one vaccination cicatrix is above 12 per cent.; with two, 8½ per cent.; with three, 7 per cent.; with four, 3½ per cent.; and with five or more, the mortality is reduced to 2½ per cent." Dr. Simon, of England, from observations continuing twenty-five years, kept a record of 6,000 cases of variola contracted after vaccination, and he classes the percentage of deaths thus: Those

* See notes on small-pox and its treatment, London, 1873.

having one vaccine cicatrix, 7½ per cent. die; those with two, 4½ per cent.; those having three, 1¾ per cent.; those with four or more, ¾ of one per cent. are fatal. Dr. Marson, noting his observation of nearly 5,000 cases vaccinated, from 1836 to 1855 inclusive, has tabulated his cases thus:

Having one cicatrix,	7.73 per cent.
Having two cicatrices,	4.70 per cent.
Having three cicatrices,	1.95 per cent.
Having four or more cicatrices,	.55 per cent.

These statistics seem conclusive that in vaccination more than one cicatrix is desirable; that protection against small-pox, with four or more genuine vesicles, is almost absolute; and that vaccination is the most efficient in persons with the most marked cicatrices. Bad cicatrices should be held as failures of vaccination, and are never to be trusted.

The official instructions issued to vaccinators in England are couched in the following language: "In all ordinary vaccinations, vaccinate by four or five separate punctures, so as to produce four or more separate good-sized vesicles; or if you vaccinate otherwise than by separate punctures (for some vaccinators prefer to make long scratches side by side or intersectingly instead of punctures), take special care to secure the production of four or five separate good-sized vesicles." Drs. Seaton, Marson, and Simon, and others of Europe, who are considered leading authorities in vaccination, say that there is a constant relation subsisting between the number of well characterized cicatrices and the degree of protection afforded.

4. Another means to prevent the development of small-pox is in revaccination. There are two prevaling opinions among medical men as to the ability of vaccination to keep up its protective power over the system for a long time. Some maintain that it becomes weakened through a long succession of subjects through whom it has passed, or that some physiological change is constantly going on which wears out its virtues, and there is need of revaccination to meet this change. Others do not assent to this view. They believe that vaccine virus never ceases its protection. In the report of 1854 of the National Vaccine Establishment, England, it is stated that vac-

cine lymph never loses any of its prophylactic power by a continued transit through successive subjects. M. Simon's statistics do not go so far as this. He makes the statement that "the revaccinations of 1836, as tested by a continued resusceptibility to cow-pox, seem not half so stable as the vaccinations of 1813." There is room for theoretical opinions upon these points, and it is an impossibility to arrive at the exact truth unless there be uniformity and carefulness in vaccinating. Until this is done, we may expect difference of opinion. There can be no doubt that post-vaccinal small-pox often springs from imperfect and irregular primary vaccination. This is more common than one would at first suppose. And yet it is equally certain that after a lapse of years (it may be one, or a dozen, or more) certain persons revaccinated are affected with the vaccine disease a second time. The symptoms and constitutional effects may not be so prominent as in the first instance. Perhaps there are but a few where the normal cow-pox appears regularly. In a majority of cases there is an irritation of the skin, and a seeming appearance of inflammation. The percentage of those who are susceptible after the first vaccination is unknown from any statistics at hand. In 1848, by a royal decree, 28,859 soldiers of the Prussian army were revaccinated. Of these the vaccine disease was regular in 16,882; in 4,404 it was irregularly developed; and in 7,573 it did not have any effect at all.* In this statement nothing is said about the character of the cicatrices. We suppose that other statistics would not give so large a proportion as unprotected. In other countries there are few statistics giving definite and reliable results. Among the Russian soldiers at Kason, the rate of good success was about 18 per cent. In Denmark, from 1843 to 1847, there were 20,000 revaccinations, and in more than one half there was perfect success, and in more than one quarter modified success. In the New York Dispensary, 70 per cent. was successful. Dr. O'Brien, of Buffalo, N. Y., makes the percentage as high as 91; Dr. Norton Folsom, of the Massachusetts General Hospital, 80.90 per cent.

When, then, is revaccination necessary? There can be no

* See London Gazette, 1852.

question that it should occur when the cicatrices are imperfect and deficient in character. It is imperative when small-pox breaks out in a family or neighborhood, or when one has been exposed to its infection. It is safe, and demanded as often as once in seven years. There are persons who will be found subject to the vaccine disease, if they submit to the operation as often as this. The rule of the best English authorities is to vaccinate in infancy and revaccinate at the age of puberty. This is thought to give additional security not only to those whose primary vaccination had been incomplete, but to many who were originally pronounced perfectly protected.

The success in revaccination has been quite as marked as the primary operation. The system derives increased protection, and small-pox or varioloid is rarely observed when it has had a faithful trial. Among 14,384 revaccinated soldiers in Wir temberg during a period of five years, commencing in 1829, there was only one, and among 3,000 citizens two, cases of varioloid. At this time this disease was in 344 localities, producing 1,674 cases of modified and unmodified small-pox among those not revaccinated. In the Bavarian army, where revaccination has been compulsory since 1843, there has not been a single case of variola, and but a few instances of varioloid. The army of our own country, as well as other nations where revaccination prevails, has the same experience.

There is no better argument in favor of revaccination than this, that persons who act as nurses in small-pox hospitals, or who attend those sick with the disease, if they are revaccinated, seldom are seized with the disease. Dr. Marson, having been connected with a hospital seventeen years, observes,—" Not one of the nurses or servants who had been carefully revaccinated before entering on their duties ever had small-pox." It is well known that physicians are not often attacked, and the inmates of families infected with small-pox, early vaccinated, do not catch variola. Dr. J. S. Conrad, of the Marine Hospital, Baltimore, Md., writes,—" Myself and all my nurses are daily living examples of the value of revaccination; no one of us ever had the disease, whilst we have been in the most intimate relation with it, in all its worst forms, for more than a year. I would advise all residents of the city to be vaccinated whether

they have a good arm or not, and if it does not 'take,' repeat it again and again. If this course be promptly pursued by all, our city will soon be rid of small-pox; indeed, I confidently say that one month will utterly banish the disease."

We then gather from these facts certain rules which should guide in revaccination, viz.,—

1. Revaccination should not be neglected till small-pox appears. There should be a systematic course pursued, and every person vaccinated as often as every seven years.

2. Revaccination requires the same care as the primary operation. In many instances it should be repeated, especially where there has been exposure to variolus infection, or where the cicatrices are imperfect.

3. No child should be suffered to enter the public schools unless there be characteristic marks of a perfect vaccination.

4. In outbreaks of variola, every person in the house, or those who have been exposed to variolus contagion, should be repeatedly revaccinated, until the practitioner is satisfied of his safety.

5. No person should be considered safe from danger if he has been inoculated or had the small-pox. He may be a second time subject to the disease.

SANITARY MEASURES.

If vaccination were universal, and often repeated, there would be little need of any sanitary regulations limiting the spread of small-pox, for it would be an easy task to vaccinate those who are directly exposed to its infection. But however vigilant any city or town may act, or however zealous the practitioner may be in regard to isolation, it is quite difficult to stop the propagation of small-pox among certain classes. Unprotected persons are scattered here and there liable to the disease, and when they come into the influence of its contagion, they will get sick, in spite of every well-directed effort. A case of small-pox is the occasion of attraction among the ignorant, and an infected house often is the place of rendezvous. If the case is of a mild character, it is pretty certain that some will doubt the correctness of the diagnosis, and there will be an exhibition of kindness and good-will not often seen in ordinary sickness.

Besides, vaccination so modifies small-pox, and the disease is often so light and trivial, that the patient frequently does not keep indoors, and much less in the particular room allotted him. He goes stealthily, it may be, in the way of others, infecting them, and by this means the disease becomes diffused. What then is to be done? Our answer is, As soon as a case of small-pox is discovered, the first and best thing is isolation. This will prevent great suffering and loss of life. If this cannot be done, on account of the proximity of the house where the disease is to some populous street or avenue, then a hospital or pest-house should be selected as soon as possible. There is no other way to check its spread. In Lowell and Boston, in 1872–'73, when the boards of health resolved to do this, then the pestilence began to abate and not before. The same experience was found in other populous places. If the disease is located in habitations away from a numerous population, perhaps there may be no immediate need of isolating the infected. In such instances let the patient be placed in a large, airy room, with but little furniture, with everything removed which will hold the infection, such as carpets, sofas, &c; and let there be but little communication with the sick from the inmates of the house.

It should be the care of the physician, after the appearance of a case of modified or unmodified small-pox, to see that every person is properly protected by vaccination. Vaccinate all, the unprotected and the variolated. It is well to repeat this vaccination day after day until success is attained, or until there is certainty of protection. If prompt and energetic measures be taken at once, there is little fear of extending the infection. General and thorough vaccination will almost always confine the disease to its first limits, provided there has not been too much intercourse with the sick from persons outside.

We think it often advisable for some one competent to visit houses in the neighborhood and see if all are properly protected by cow-pox. No time should be lost by the proper authorities to ward off the impending danger, for there is a period when epidemics of small-pox retard their spread. This is the time for practical work, and the application of every means at hand to eradicate the disease altogether. This course will save sick-

ness, save great expense, and constant fear. Hesitation is a sin, and complete success lies not in delay. As long as the officers of towns or cities will not take efficient steps for fear of creating unnecessary alarm or expense, so long will small-pox rage.

Measures of precaution for prevention are proper for all classes of society, but it is chiefly among the poor that the utmost vigilance is required. The cleanest domestic habits should be enjoined. All material substances, discharges from the body of the sick, or substances separated from the body which are capable of communicating disease, should be destroyed, or placed in situations where no harm can ensue. Linen clothes or wearing apparel should be thoroughly divested of all contagion. This can be done by the usual disinfectants, such as sulphur, carbolic acid, and chloride of lime. A solution of chloride of lime, one ounce to a gallon of water, is sufficient. Boiling water (or clothes in water brought up to the boiling point) will destroy the infection. Those articles, such as woollens, beddings, &c., which cannot be washed, may be rendered harmless by heat, when the temperature can be raised to 210° or more. If this cannot be done, they must be destroyed. This is the only safety, for small-pox has a *habitat* in such materials for a long time.

After this, attention should be turned to the interior of the house. The walls should be whitewashed with quick-lime, and the wood-work thoroughly cleased with soap and water, and afterwards washed with a weak solution of chloride of lime and water. Then it will be well to disinfect the whole house with chloride of lime and sulphuric acid, or with the fumes of sulphur. Care should be taken to close the doors and windows, so as to keep the eliminated gas more confined. In a word, all persons having communication with the sick—physicians, nurses, &c.—should be subjected to some disinfecting process before they leave the sick-house, and there should be a change of raiment.* We know of one case of variola, in 1872, carried by the attending physician, in going from an infected atmosphere to another patient, communicating

* We know that many physicians do not subscribe to this view, but, nevertheless, we believe it is the only safe way.

to the latter the disease, of which he died. Doubtless other cases have originated by the same carelessness. Too great diligence cannot be had by those frequenting the bedside of the sick, to divest themselves of all infection. Dr. Watson truly remarks,—"There is no contagion so strong and sure as this; none that operates at so great a distance. It is readily communicable in every way, by breathing a contaminated atmosphere, and by contact."

An efficient board of health is indispensable. It should consist of men alive to the responsibilities of their station, willing to do everything for the public weal,—men who are energetic, active, and intelligent. This is more needful in large cities. One of the board should be a physician.

MUNICIPAL DUTIES.

It is impossible to carry out to the full extent the benefits of vaccination unless there is a coöperation of the local government, advising and enforcing suitable regulations. This was foreseen by many European states, soon after the discovery of Jenner, and provisions were made by them for affording vaccination to their respective populations. In a few countries the laws are compulsory. But in the United States, owing to the peculiar formation of the government, or rather to a state of indifference, congress has not seen fit to enact any law compelling vaccination. All that it has done was to provide certain quarantine rules, and see to their enforcement. The duty of making police regulations and compulsory laws belongs to each individual state. So early, however, as 1813, congress passed a law entitled "An act to encourage vaccination." This act made provision for sending to persons who desired genuine vaccine matter, accompanied with certain instructions how to vaccinate or use the virus. It required that the President should appoint some suitable person who was denominated the "United States vaccine agent," and it was his duty to furnish pure vaccine virus through the mail to any one who would forward the sum of five dollars. But before this time, vaccination had been extensively practised in many of the states. In 1809 we find that "so great was the pre-judgment against it

in the minds of a few that it was often subjected to scrutiny and treated with anything but respect. In its first trial, many persons would assemble to witness the operation at some public place, and it was deemed of such importance, if not of novelty, as to make it a matter of public record. In Milton, Mass., where twelve children were vaccinated, there was quite a concourse of citizens to witness the transaction. Many places, amid the unreasonable prejudices then existing against this "heathenish practice," as it was termed, had determined and resolute advocates of vaccination, passed votes in its support, and were ready to acknowledge it as a "blessing great, as it is singular in its kind, whereby the hearts of men should be elevated in praise to the Almighty Giver." (Records of Milton, Mass., 1809.)

But there is no state, so far as we can learn, where vaccination can be considered compulsory. Some states have, however, quite stringent laws. In Massachusetts it is required that children should be vaccinated before they attain to the age of two years. In all eleemosynary institutions, vaccination is made imperative. Revaccination in certain instances may be enforced. The penalty for refusal is five dollars. Other states simply provide for the appointment of persons who may vaccinate at the expense of the town or city, by consent of the proper authorities. There are certain municipal regulations in states, requiring children to be vaccinated before attending the public school; but further the laws are silent.

The above provisions represent nearly all that has been done to promote vaccination. We do not believe these sufficient. There are persons in every community who will not avail themselves of the protection through vaccination, unless they are compelled to by public statute. Some who have attained to mature manhood will boast of their independence and fearlessness of the sad effects of small-pox. There are others who never dread danger till it stares them in the face. If gratuitous vaccination be afforded, if appeals for their safety be made, and if arguments convincing their understanding of the harmlessness and protective virtues of cow-pox be used, still they are immovable and unconvinced. Others through ignorance err, and spurn this means of protection because they deem all

men dishonest but themselves, pretending that certain humors and taints are to be spread broadcast through their households. They do not consider that vaccination is a sacred duty which they owe to themselves and to society, and that every one is obligated, of whatever class or condition, to accept this ægis of safety. This inaction should not be. He who will not lend his influence in favor of vaccination is not a friend to the human race or to his own happiness. We hold that such laws should be enacted as will force him to duty and to the protection of others. This will be both humane and beneficent. The object of a good government should be to protect life, property, and to promote the happiness of its subjects. This cannot be accomplished if diseases, like small-pox, are let forth upon the people as so many demons of destruction, only to destroy and make miserable through constant fear of their approach.

Almost every known government has acknowledged its duty to protect its citizens. If it be lawful to have provisionary measures prohibiting the spread of certain contagious fevers and enforcing suitable quarantine regulations, much more should small-pox be confined to certain limits, and persons exposed to its infections enjoined to protect themselves by proper vaccination; for small-pox is more destructive than any other contagious disease known. It exists in every clime. Other diseases, like yellow fever, are more or less confined to certain localities, and are often limited by the influence of climate. Not so with small-pox.

Then it must be remembered, that when laws have been in force compelling vaccination, then small-pox has materially lessened. This we have alluded to elsewhere. But let us refer to one instance illustrative of this point. In London, from 1838 to 1866, statistics are existing showing the results of law judiciously enacted in limiting the existence of small-pox.

Before the enactment of any vaccination laws, the annual average of deaths from small-pox was 1,859. After the passage of laws providing gratuitous but not obligatory vaccination, the annual average fatality was 834. When it was made to a certain extent obligatory, the annual average mortality was 739. This diminution took place in a constantly and rapidly increasing population. Further, in the years 1840 and 1841, the annual

deaths from small-pox were 616 out of every million inhabitants living, of all ages; from 1841–51, in the aggregate population, 389 deaths in every million; from 1851 to 1860, 272 deaths per million,—showing a decrease, under limited obligatory laws, of more than 589 yearly.* Other countries, where similar laws are existing, will exhibit the same excellent results.

And then, if we look at the pecuniary aspect (and this outweighs everything else in the minds of some) we shall find reasons for vigorous action. It is well known that towns and cities, where even one case of small-pox exists, are subjected to a great expense and loss of business. All know how swiftly these expenses swell into large amounts. Now, very often, this might be obviated if judicious vaccine regulations were instituted. The cost of a single case of small-pox is amply sufficient to pay the expense of vaccinating hundreds. In point of economy, then, it is for the interest of populous as well as smaller places to spread far and wide the benefits of vaccination. How much property is destroyed, how many valuable lives sacrificed, for want of suitable precautionary measures!

If it should be asked, What shall be done?—our reply is, If the general government would provide laws meeting this want, it would be best, for then there would be greater efficiency and more intelligent results. But this cannot be effected easily, with the present state of public opinion. Further light must be spread among the people, if we would see this. In our judgment it is the duty of the several states to make the necessary provisions. We can give only a meagre outline of what is demanded. No one plan would meet the approbation of all; but there are a few things upon which all will be agreed. We, then, believe, taking into consideration the history of measures adopted by other countries to suppress small-pox, that there is no other way to meet the urgency of the situation except by compulsory vaccination.

Laws should be enacted, requiring children to be vaccinated before they attain the age of one year, and revaccination should be required at the age of puberty, or earlier if it is thought desirable. Ample provision should be made for the gratuitous protection of the poor, and every means adopted to make vac-

* See report of Register-General from 1840 to 1866.

cination desirable. Children vaccinated should have certificates of the fact, setting forth the time, place, and all the circumstances of the operation, and no one should be suffered to attend the public school who has not such a certificate from competent authority. Every one who refuses to be vaccinated, after notification by the board of health, should be subjected to some penalty of law. This should apply to adults also.

Again: there should be a general vaccine agent, unless there is a board of health in each state, whose duty should be to provide pure vaccine matter at all times; to forward such virus to authorized agents in any town or city, at the actual cost; to prepare and issue such rules and regulations for vaccination as will best subserve the objects desired. Such vaccine agent should collect such facts in regard to vaccination as will give the people and medical men practical results of vaccination, and annually make a report, to proper authority, of all his administrative acts. In addition to this, sub-agents should be appointed in each incorporated place, whose duty should be to assist, and see that the vaccine laws are enforced, and report monthly to the general agent, giving the number of persons vaccinated. If any agent should neglect to perform the functions of his office faithfully, he should be fined. Some such plan, as indicated, more fully detailed, would work favorably to prevent the development of small-pox. The subject-matter of every statute of this kind belongs to those conversant with legal knowledge.

In conclusion, let us affirm that the best method of preventing the development of small-pox is careful and scientific vaccination,—vaccination voluntary, if possible, but compulsory if the exigencies of the case demand it.

PAPER ON SURGERY.

BY F. A. STILLINGS, M. D.

Mr. President and Fellows:

In presenting this little paper on surgery, I feel somewhat like the old Greek, who, at the funeral of his two-year-old child, stood up and apologized for bringing so small a corpse before so large an audience.

I do not think it necessary to go back to the early history of surgical operations and eulogize the pioneers of whom we have records, and whom all delight to honor, notwithstanding the thought may creep in that perhaps somebody had done the same thing long before their day, the record of which has been lost.

In this brief article I shall, instead, say a few words about 1. Indolent and varicose ulcers of the leg; 2. Carbuncle and its treatment; 3. A new splint; 4. The dry suture.

In the treatment of indolent and varicose ulcers of the leg, how many of us have been almost at our wits' end trying to heal them. Some one of you may want to cry out, "I always cure those with a rubber bandage," but you don't, that is, if you have many of them. I have found that it is only a small percentage of cases that will heal under the rubber bandage, instead of exuding serum and putting the patient in such distress that he will not continue the treatment. It is true you occasionally find a patient who bears the bandage very well, and the ulcer heals kindly. Another case may perhaps yield to the influence of mild unguents, or strapping with adhesive plaster.

In a number of cases that have been through the usual routine treatment without success, I have found the following treatment induce a speedy recovery: Apply a solution of nitrate of silver—50 grains to the ounce of water—to the ulcers, and also paint the whole leg where it is inflamed and scaly, then put on a double-roller bandage. This should be changed every day, and the caustic applied for the first week, or until the ulcers are thoroughly cleaned out and the inflammation diminished; then apply a thick coating of benzoated zinc ointment, first pencilling the edges of the ulcer with a little of the nitrate, and at each successive dressing pull the bandages a little tighter. This dressing should be left on two days at first, and then removed, and the leg carefully wiped dry. After the leg is dried, a fresh dressing is to be applied in the same way, and after one or two of these dressings they may be left on three or four days. The leg should not be washed more than once during the treatment, and frequently the leg heals faster to have no water touch it till the ulcers are well. After the leg is healed, no patient should be allowed to leave his bandages off till he has an accurately fitting elastic stocking. One advantage which this close bandaging with the double roller gives to the working man is, that he is enabled to pursue his ordinary work without retarding the recovery of his limb; and to the surgeon it gives less trouble than to try to heal with simple ointments and washes for the patient to apply himself, as the recovery is much more rapid.

The next thing I wish to call your attention to is carbuncle. Gross says,—"The most accurate definition that can be given of a carbuncle is, that it is a boil on a large scale, it being, like that affection, a peculiar inflammation of the cutaneous and cellular tissues, not circumscribed, however, as in that disorder, but disposed to spread. Its most common seat is the posterior part of the trunk and the nape of the neck, particularly near its junction with the occiput." Also, as regards treatment: "The treatment of carbuncle must be conducted with special reference to the improvement of the secretions and the support of the system. Few patients will be found to bear bleeding, active purgation, or depletion in any form. It is only when there is extraordinary plethora, combined with great

vigor of constitution, that these means should be carried into effect. In all other cases their inevitable tendency is to do harm by bringing on premature exhaustion. Efficient purging, however, may be regarded as an indispensable remedy in almost every instance, the object being not only to get rid of irritating fœcal matter, but to produce a change in the secretions.

"For this purpose the medicine should be given early in the disease, and a mercurial cathartic should always be preferred to any other. When marked gastric derangement exists, as indicated by nausea, headache, and pain in the limbs, no time should be lost in administering an efficient emetic, or an emeto-cathartic, as ten grains of calomel, and from ten to twenty grains of ipecac, followed by large draughts of chamomile tea, or infusion of valerian. Clearance having been effected, and function improved or restored, stimulants and tonics will come into play, exhibited warily, especially if cerebral trouble is threatened, yet efficiently if evidence of exhaustion is present, the most suitable articles being quinine, tincture of chloride of iron, and brandy, with nourishing broths.

"Anodynes will generally be required in large doses to allay pain and procure sleep. After the first few days a mild laxaative, as blue mass or castor oil, is occasionally given. Determination to the brain must be promptly met by a large blister, applied as soon as possible to the occiput.

"The best topical application, at the commencement of the disease, is the warm water dressing, strongly medicated with acetate of lead and opium. Pencilling the surface well with tincture of iodine, and then covering it with a mixture of equal parts of olive oil, laudanum, and spirits of turpentine, sometimes produces a very soothing effect.

"In many cases there is nothing so promptly beneficial as a blister large enough to include a considerable portion of the healthy skin, and retained until there is thorough vesication: it drains the vessels of serum, allays pain, and makes a salutary impression upon the general system. Leeches are commonly inadmissible, as they occasion severe pain and undue depletion. In the earlier stages of carbuncle, especially in those cases in which the morbid action is spread over a very large surface, speedy and effectual relief may often be afforded by the subcu-

taneous division of the indurated tissues with a delicate tenotome introduced at four opposite points, and carried about, under the guidance of the index-finger of the left hand, in such a manner as to traverse the entire swelling. The skin itself is left intact except at the entrance of the knife. The operation is generally followed by a good deal of bleeding. The pain and tension rapidly subside, the danger of extensive sloughing is effectually obviated, and the vital powers soon begin to rally under the improved condition of the parts. Compression, by means of adhesive strips applied concentrically from the margin to within a short distance of the centre of the carbuncle, is sometimes highly beneficial, the treatment greatly and rapidly assuaging pain and tension, and materially abridging the cure. When the disease has passed into gangrene, as evinced by the cribriform and boggy condition of the affected tissues, the great remedy is free incision, the knife being carried at different points through the skin down to the healthy structures beneath. The operation at once relieves the horrible pain and tension of the parts, affords nature an opportunity of casting off the slough, and puts an effectual barrier to the further extension of the morbid action.

"If the dead tissues are slow in coming away, their extrusion may be expedited with the scissors, the surface of the ulcer being well touched immediately afterwards with dilute acid nitrate of mercury, or solid nitrate of silver, to promote the formation of healthy granulations. The accumulation of matter must be prevented and cleanliness insured by the frequent use of the syringe charged with weak solutions of chlorinated soda, carbolic acid, permanganate of potassa, or common salt. As soon as the sore assumes a healthy aspect the parts should be dressed with some mild unguent, as the opiate cerate, elemi ointment, or ointment of the balsam of Peru."

The preceding description of the treatment of carbuncle is the one usually followed, and covers, so far as I have been able to find, the literature on the subject. The method of treatment I have pursued with much satisfaction for the past seven or eight years differs from the above, so far as the local treatment is concerned, and is as follows:

When a carbuncle is first seen, no matter what stage it is in,

make a small crucial incision through the skin, then take a hypodermic syringe charged with pure carbolic acid—liquefied crystals—and thrust it into the tough mass of the carbuncle, depositing four or five drops of the strong acid deep between the angles of the incision, and, in an ordinary case, so that their circumference will be about that of a half dollar. The operation gives little or no pain, as the acid at once produces anæsthesia of the part. I have only found it necessary to put on a water dressing, or, if the patient prefers, a poultice. The acid rapidly forms a slough, which finds ready exit through the small crucial incision, and you soon have a simple, healthy, granulating cavity.

There is no danger at all of poisoning in these cases by carbolic acid, where it is used the full strength, as it cauterizes everything it touches, and is then cast off as extraneous matter; while, if we used a diluted acid hypodermically, there would probably in many cases be absorption and poisoning.

The best syringe for use in these cases is one made, I think, by Codman & Shurtleff, of hard rubber, with a hard rubber piston ground to fit, as there is no packing to be injured by the acid.

Third on the list is a new process of preparing our own splints. I speak of it as a new process, because it was never brought to my notice until about a year ago, when a seedy looking individual, claiming to be a physician, called at my office, and showed me some of the splints, well moulded, very firm and light, and capable, as he demonstrated, of being heated and spread out, and then moulded accurately to the arm or finger, and hardening again in two or three minutes. The secret of preparing these splints he was in the habit of divulging for from three to five dollars, in different parts of the country. However, he said that he had just sold the formula to our respected president and secretary for two dollars each, and would let me in on the same confidential terms. I took him at his word, and here is the formula, verbatim: "Dissolve one pound of gum shellac in one quart of good alcohol. This gives a thick solution. In order to make the splint, apply the solution on one side of woollen cloth with an ordinary paint brush, and dry thoroughly in the sun or before a fire.

Then apply a second coat on the same side, and dry as at first. You then will have a single piece. If you wish a stronger piece, apply a coat on one side of two pieces that have been saturated, and dry; then put these two pieces together, and dry; then press them with a hot iron, and they will unite and become as one piece. Old cloth is better than new, is more porous, and takes up more of the solution. If you pulverize the shellac it will dissolve sooner, and takes less alcohol. Be careful and see that all the alcohol is dried out; otherwise it will not be strong."

I have here some rather poor specimens of this prepared splint cloth, made with only one thickness of cloth or thin felt, and done hurriedly. These splints can be made, as he says, from any old piece of cloth, but I think thick felt is preferable, as it moulds better. When well made this splint is capable of being used in almost every case where Ahl's felted splint would be suitable, and costs less than one fifth part of what Ahl's does. Besides, there are very few places in this state where Ahl's splints can be obtained at short notice, while we can all of us keep a roll of this in the office to cut from.*

Fourth and last, I wish in a few words to call your attention to an ingenious method of suturing, which was brought to my notice by Dr. C. B. Porter, of the Massachusetts General Hospital, and which I have since used with much satisfaction to myself and patients in several cases; and as it was new to me, it may possibly be new to some of you here. You frequently have patients with a long cut across the cheek, lip, or forehead, where, if stitches are taken, the resulting scars from the needle punctures are almost as unsightly as the scar from the wound. This suture does away with all disfigurement from this cause, and is made as follows: Take fine crepe lisse, cut it into strips of suitable length, making the ends of the strips a little wider than the centre, then fold the strip and place it on one side of the wound where you would naturally place the stitch, letting the loop come within about a quarter or one third of an inch of the

*Since writing the above, Dr. Geo. A. Crosby, of Manchester, has called my attention to the fact that the description of this splint had evidently been stolen from Hamilton's Fractures and Dislocations, by the old man. As it is a good splint, I have decided to let the description of it remain in this paper, thinking, perhaps, there are others who have let it slip from their memory as well as ourselves.—F. A. S.

edge of the wound, then fasten the crepe lisse firmly to the sound tissue with Squibb's flexible collodion. Put corresponding loops on the opposite side of the wound, using as many loops as necessary to secure accurate coaptation. Then run a fine cord through each opposing loop, and draw the wound accurately together, and tie each cord in an easy knot. These knots should be tied a little to one side of the cut, so that the sutures may be lengthened or shortened from day to day as is necessary to keep the parts properly in place and the knots from covering up the wound. This form of suture is also applicable in cases of contused and ragged wounds where a portion of integument is gone, and we are unable to stretch the ordinary suture across. By applying this dry suture and using longer cords, we are able to bring the severed parts closer together, and while leaving the wound perfectly open for dressings or inspection, to expedite the cure greatly.

In giving you these little hints, I have endeavored to use as few words as possible, and trust you will forgive me for doing such an unheard-of thing as writing a *short* paper to be read before a medical society.

WATER POLLUTION—WELLS.

BY IRVING A. WATSON, M. D., SECRETARY STATE BOARD OF HEALTH, CONCORD, N. H.

Poets have sung of the "babbling brooks" and the "mountain springs" with their "silver cascades." Painters have sketched

"the placid stream,
Reflecting back the mirrored beam,"

in many a sequestered nook, where the beauty of the scene gave to the soul its grandest appreciation of nature's handiwork; but the poet's song and the painter's canvas are too often the false airs and the tinsel drapery of Momus—fun and folly. But poets and painters live in a realm uncongenial to the startling facts of modern chemistry. Virgil would undoubtedly have been as ready to have believed that $H\ O^2$ represented a glass of milk, as that it was the equivalent of pure water; while, if Raphael had been told that the pool of Bethesda was abundant with "albuminoid ammonia," he might innocently have believed it to be "something good to eat."

Tradition and popular education have taken wings in a tangent direction from many of the fundamental principles of a natural existence, and, while freighting the popular mind with its bulky chaff, sparsely grained, they seldom recognize the revelations of science. The plot of some well drawn novel, or the fascinating performances of its hero, rest unforgotten in the embrace of memory,—are sought after, cherished, and remembered in all and by all ages. Science as yet is but little courted, much less wedded to the popular taste, and the stubbornness of facts is in direct ratio to the inflexibility of the public mind.

Science, however, is not always of one hue. It is full of attractions and alluring fascinations. It needs only to be clothed in well cut and fashionable garments, and properly and politely introduced, to receive universal recognition and popular applause. This is especially true of the science of sanitation, because it is more closely allied to the vital interests of every community and every family than all others, and, through the simplicity of its primary principles, can be realized and understood by all.

Pure water is essential to the health and comfort of every community: there is no argument to the contrary. How such a *desideratum* can be acquired and maintained is a problem which requires the closest application of science, as well as mechanical and engineering skill. The question, whenever and wherever applied, becomes an isolated reality, and the solution, instead of being based upon established formulas or analogy, is almost wholly dependent upon the individual facts and conditions connected therewith.

The aspect of the question a century hence will be very different from what it is to-day, even as in its present bearings it differs from the time when the woodman's axe was the only sound of industry that echoed through the sleeping valleys and over the watchful hills of New Hampshire. In that day the hardy pioneer quenched his thirst by the side of any stream or spring with water as pure as earth could give. He thought not to glance up the stream to see if it was spanned by a family vault, or flanked by a barnyard. Likewise, if he partook from the bubbling spring or the primitive well, he never imagined a crystal of urea came up in the tiny fountains of sand at its bottom, or that the sparkle of the water was the carbonic acid of a sink drain; for around him were no such dangers. But civilization (in many respects a misnomer) came on, and brought with her more evils than one,—seduced the virginity of nature, and begot a host of illegitimate products and conditions. Into her very veins—the streams and rivers—have been injected the effete products of waste and decay; and to-day her very gifts, poisoned by men, bring pain, poverty, tears, and death into many households.

We have all, no doubt, traced some cases of the zymotic

order to polluted water, with evidence that left no doubt as to the correctness of our conclusions. As to how far such influences extend in the causation of disease is undetermined, but I believe it extends far beyond the category of acute zymotic diseases.

What of the great invalid corp that register their physical afflictions under the comprehensive term "poor health," and who seem to have no specific disease, either acute or chronic? What demon has laid so oppressive a burden upon the nerve centres that half of life's function is smothered, and the physical energies nearly blotted out? I believe that contaminated water is one of the prime factors in this unfortunate and distressing aggregate. We have often traced typhoid fever, dysentery, and other diseases to a polluted well or spring; but the cause of insidious decay, progressive pallor, softening muscles, wasting strength, and slow enervation is not so readily found nor so zealously sought after. That contaminated water should produce such results, associated perhaps with other unsanitary surroundings, there can be no argument to disprove. A close study of the subject for the past two years has led me to believe that polluted wells are a most prolific source of sickness and death throughout the state. I believe the medical profession is not yet so thoroughly aroused upon this subject as the facts demand, and that if the physicians of the state should carefully investigate the question of water pollution, the result would be one of wide-spread alarm at the ravages it is producing.

By far the most dangerous source of water supply is the well, because of its close proximity to dwellings. If the surroundings of a well are not free from all impurities and waste, we have no right to expect pure water, and an attack of typhoid fever, dysentery, or kindred diseases should not in the least astonish us. *Conditions which endanger our wells are the rule, and not the exception, both in the sparsely settled country and in the city.*

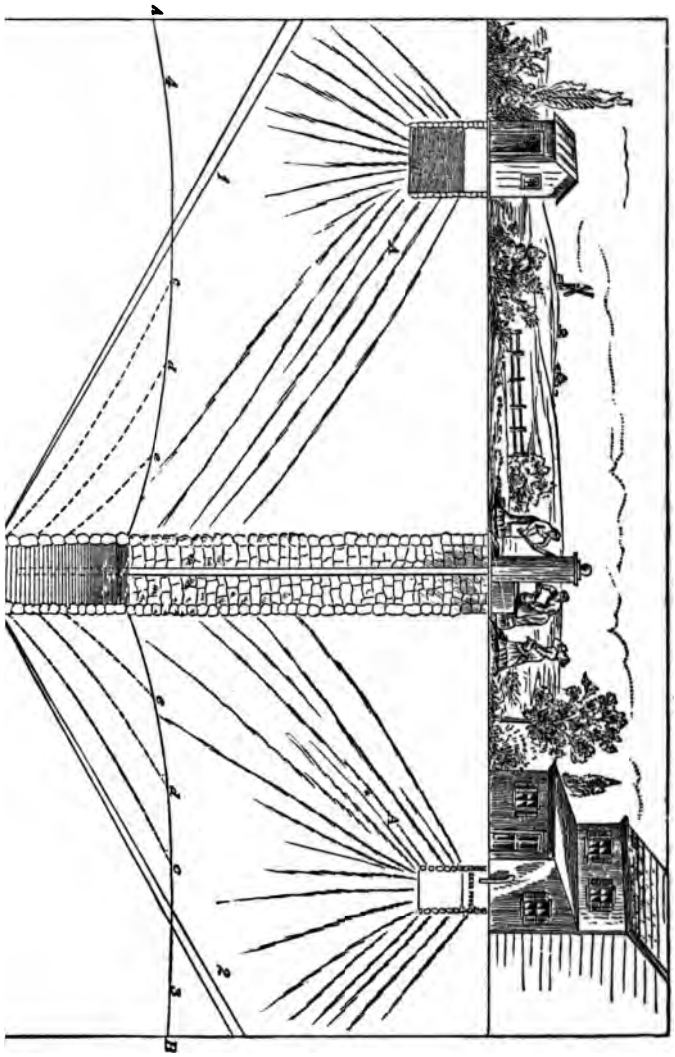
In a speech before the Central N. Y. Medical Association in 1875, Dr. Harvey Jewett said,—

"We are often asked, In what way does the water of our wells, in farming communities especially, and in our larger villages,

become impure? It comes bubbling up from the deep fountains, fresh, cold, pure, and clear as the crystal, and often gives no indication by taste or smell of containing impurities. How often do we see the waste water from our kitchens thrown out upon the ground year after year, until the soil is saturated thereby! Then, again, the continuity of sink-drains, cess-pools, and privy vaults to our wells is sufficient to saturate the earth with their poisonous, disease-producing elements. It is through the agency of this apparently *pure water*, constantly, insidiously introducing these subtle elements into the human organism, that the fountains of life are poisoned and disease generated. In large towns and thickly populated streets, with slovenly domestics, the whole surface becomes saturated with the waste water, and in wet seasons the well, being the only artificial drainage, receives the drippings, converting it into a cess-pool of filth. I have known instances where the waste water from the sink-drain ran directly into the well, until the horrible stench compelled an investigation and a remedy. Instances of this kind are by no means rare, where a direct communication from the sink to the well is found to exist. With some families in the country the whole waste water of the household is thrown out upon the ground, until the entire surface soil is saturated like a sponge with the elements of disease. The popular but erroneous idea, that filling in earth upon a water-saturated soil removes the necessity of deep drainage, should be exploded from the minds of the people, and the great central fact set forth, that no water-saturated soil is fit for human habitation, and that a large proportion of unhealthfulness and human ailments can be traced directly or indirectly to this influence."

I have had forwarded to me during the past year many samples of well water from different sections of the state for examination, and *over ninety-five per cent. were contaminated.* In many instances no particular suspicion existed that the wells were polluted, so "sweet and sparkling" was the water. With the exception of a few wells in this city, the samples came from the smaller villages and isolated farm-houses. I suspect, and my experience is in accord with the idea, that the most dangerous wells are to be found at the latter, because such a well is subjected not only to the unsanitary influences of the household,

of the barns, cattle yards, hennery, pig-sty, etc. No one reasonably presume that a well situated in close proximity



ch surroundings can long remain pure, except that its alti- is such as to render contamination impossible, which is y the case. It should be borne in mind that a well is in

itself a system of drainage for a given area of the earth, which area is dependent upon the depth of the well and the character of the soil. The accepted formula is that it drains a portion of soil represented by an inverted cone, the base of which equals in diameter the depth of the well. Thus the well *must* drain a certain amount of soil or earth, and unless this certain amount is kept clean and uncontaminated, the well *must become polluted.* It should not be forgotten that this described cone of soil is the *minimum* amount that a well can drain, while with favorable conditions the maximum area is almost unlimited. A stratum of clay or other impervious substance, or fissures in the rock formation, may act as the carrier of a little stream or vein of polluted water till it reaches the well, and the source of pollution may be a long distance away.

The sketch which is here reproduced from the last report of the State Board of Health vividly illustrates the way in which a well is often polluted.

The double lines 1 and 2 represent the angle which the well drains. The slightly curved lines 3 and 4 represent the water line in the ground, the constant use of the well depressing this line below a level in the immediate vicinity of the well. The lines radiating from the cess-pool and vault illustrate the cause of said pollution, and consequently contamination of the water in the well. This sketch is in no way overdrawn: I have seen many wells apparently situated in precisely the same way. If somewhere in a near and convenient location to this well, as shown above, were placed a barnyard and a pig-sty in addition to what we now see, is would represent the exact condition of many of our farmers' wells. Yet the proprietor of this "best well in town" wonders why his doctor's bills are so large! He bows "to the will of God" when cholera infantum takes the life of his little child, when his own ignorance or cupidity is the destroyer. How long shall the Almighty be charged with crimes that come alone from the ignorance, carelessness, neglect, and conceit of men?

I propose to give a few illustrations of water pollution that are of a very marked character. The following diagram is that of a hotel in one of the thriving towns in this state, and the facts connected therewith I obtained from a reliable physi-

cian under the promise of not giving to the public the locality or his name. I have seen the hotel myself, and assure you that the location was as represented.

A case of typhoid fever occurred the past season (1882) in the bed-room near the privy (see diagram No. 1). All the discharges from this patient were thrown into the vault without being disinfected. This vault was located about *fifteen feet from the well* which supplied this house. Result: *Fourteen cases of typhoid fever, with one death, from the use of this water for drinking purposes.*

The following description and history of a well in Newport (although I published the same in the last report of the State Board of Health) is of such a remarkable character that it will bear republication.

The attention of Dr. D. M. Currier was directed to this well in the investigation of the cause of sickness in the family that used this water, and the analysis which is given of the water was made by Prof. Edmund R. Angell of Derry.

ANALYSIS OF THE NEWPORT WELL.

Odor,	slight.
Color,	a little yellowish.
Total solids, grains per gallon,	49.2
Soluble solids,	34.7
Ignition of residue,	it blackens.
Combustible and volatile matter, grains per gal.,	9.24
Hardness, equivalent to grains of $CaCo_3$ per gal.,	11.00
Alkalinity, " " " "	15.00
Chlorine, grains per gallon,	12.00
Ammonia, parts per million,—	
Free ammonia,	0.0666
Albuminoid ammonia,	0.3100
Nitric acid, grains per gallon,	2.69
Nitrous acid,	none.
Iodine,	none.
Bromine,	none.
Iron,	very slight trace.
Copper and lead,	none.

Microscopic examination of sediment shows,—

Bacteria:

Bacteria Bacillus.
Bacteria Vibrio.

Infusoria:

Flagellata Monadina.
Flagellata Euglenia.
Ciliata Enchelia.
Ciliata Bursarina.
Ciliata Parmecia.

Silicious granules.

Small pieces of decaying wood.

ADDITIONAL FACTS.

Free carbonic acid, grains per gallon,				. .	11.9504
Combined Co_2 "	"	"		. .	6.6528
Total Co_2 "	"	"		. .	18.6032

Bases: Lime, magnesia, soda, potassa, ammonia.

Acids: Hydrochloric, sulphuric, nitric, phosphoric, carbonic, silicic.

Most of the lime is in the form of carbonate held in solution by carbonic acid; most of the magnesia exists as a salt soluble in water, probably the sulphate; some of the alkalies are present as carbonates. The iron is kept in solution by carbonic acid.

EXPLANATION AND OPINION.

The color and odor indicate contamination. The large amount of soluble solids is suspicious. The blackening of the residue during ignition shows the presence of organic matter in solution. The large amount of combustible and volatile matter is a grave indication. Because the alkalinity exceeds the hardness, it shows the presence of an alkaline carbonate, which is a suspicious circumstance, since it may result from the decomposition of animal matter. The amount of chlorine is unusually large. I think the average for well water is about one grain. The large quantity of chlorine and the presence of

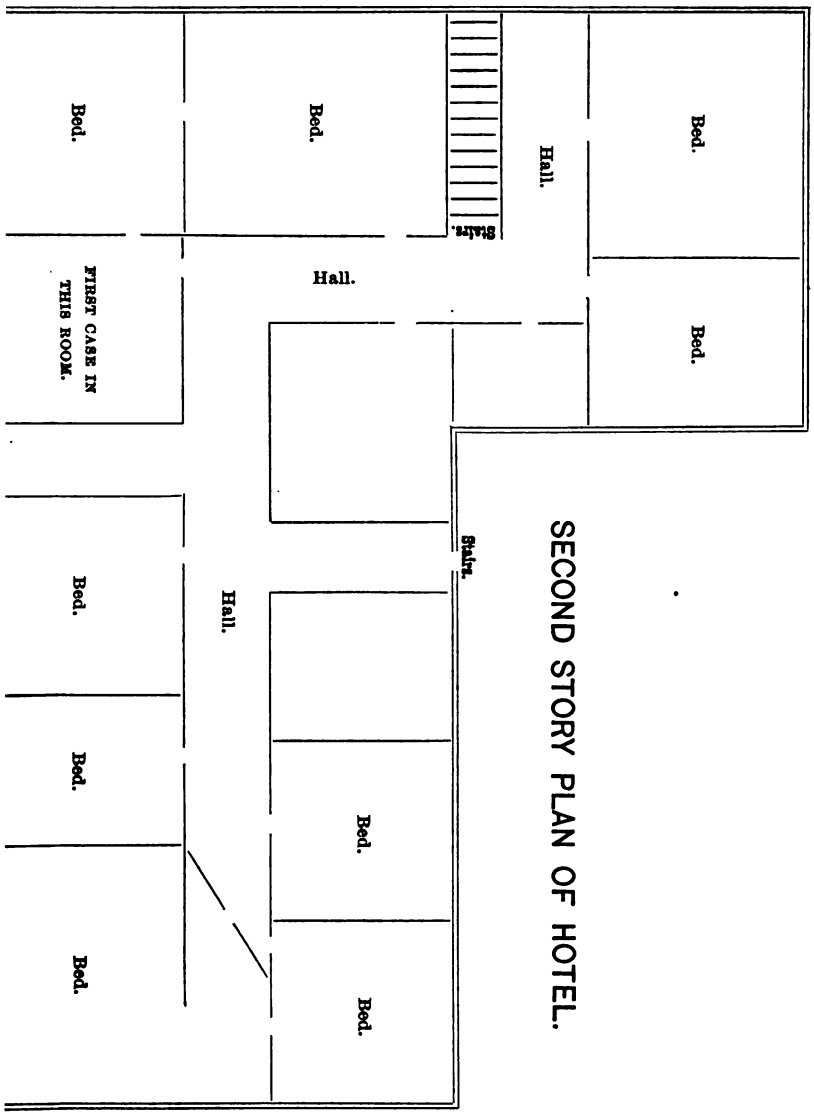

SECOND STORY PLAN OF HOTEL.
Bed.
Bed.
Bed.
Bed.
Bed.
Bed.
Bed.
Bed.
Hall.
Hall.
Hall.
Stairs.
Stairs.
FIRST CASE IN THIS ROOM.

DIAGRAM NO. 1.

alkaline carbonates point very strongly to the stable, privy, sewer, or cesspool. The amount of nitric acid is large, though this alone may not mean much, yet joined with the other results it has much significance. The amount of ammonia is more than twice the quantity that ought to condemn a water absolutely. The small amount of free ammonia and the large quantity of albuminoid ammonia show that a large amount of organic matter is present and decaying slowly. As the weather becomes warm, the proportion of free ammonia will increase. Bacteria are always associated with putrefaction and conditions of hygienic importance.

Infusoria are never generated except in organic solutions. They are abundant in all fresh water wherever organic matter is held in solution, also in stagnant water.

From the large amount of chlorine and the presence of alkaline carbonates, it would appear that the water is contaminated with animal rather than with vegetable matter.

This water is unfit for domestic uses.

EDMUND R. ANGELL.

A word in explanation may be necessary to those who are not familiar with water analysis.

Water that contains such a large amount of solids is very suspicious. It will be seen that the sample contained twelve grains of chlorine to the gallon, which would alone at once condemn it. The only source from which chlorine is derived in the waters of this state, except possibly a trace, must be from the sewage or waste from the household, where common salt is used. A well that contains over one grain to the gallon is to be looked upon with suspicion. The same is true of a water that contains over 0.01 part of ammonia or "albuminoid ammonia."

Then, again, the bacteria and infusoria, to the extent present, indicate its pollution.

Of the history of this well and the family using its water Dr. Currrier renders the following report, which is a terrible commentary upon the dangers of filth in drinking-water. Since the report was made, Dr. C. states that there was a case of typhoid upon these premises during the early part of the

winter, which he did not know of at the time his report was written.

DR. CURRIER'S REPORT.

The farm-house, from the well of which was taken the specimen of polluted water, is situated on a high bluff of land south-east of the village, and is known by the name of East Mountain. Upon this ridge of land are situated some of the best farms in town. The soil is rich and deep, underlying which is a sub-soil of clay, very hard and compact, but occasionally interrupted by a deposit of sand. I have been told there were beds of sand in the vicinity of this dwelling-house.

By the diagram sent, you will see that the well is under the L part of the house. The water is drawn up by means of a windlass in one of the back rooms. The well itself is some twenty-five feet deep. In the summer kitchen, not more than three or four feet from the well, you will notice the sink marked 2 on the diagram, which discharges its water on the ground by means of an open spout but a few feet from the outside of the building. At 3 about an equal distance from the well, is a back door, from which foul water, as on washing-days, and filth of nearly all descriptions, were usually thrown, which is not saying more than can be said of back doors to farm-houses in general.

As you step out of this door, a little to your left you will see the pig-sty, the centre of which cannot be more than fifteen feet from top of well. The privy marked 4 is entered from the walk leading from the well-room to barn-yard, the excrements of which are received upon the ground. The distance from the door, 7, that opens into the barn-yard, and the well, is just twenty-four feet by actual measurement. Stepping out of this door you are in the barn-yard filled with cattle and sheep, on the further side of which is the barn with its usual manure heap and decomposing vegetable matter in general. Thus we have the barn, barn-yard, privy, pig-sty, back door, and sink all in dangerous proximity to the well, either one of which might contaminate its water, and render it unfit for use.

It was on the 8th of March, 1883, that I procured the second specimen of water from this well that I sent you. For over

three months prior to that date the ground had been frozen and covered with snow, with no thaws during the whole winter severe enough to cause any surface water. The winter was what is called a dry one, all the wells in that vicinity being remarkably low, so that there could be no surface water finding its way into the well on that date, and probably had not for months previous: the influence of the surroundings at that time must have been at the minimum. If the water is bad under this condition, what must it be soon after the frost is out, and the well becomes filled with its maximum of surface water?

Now the interesting question comes, What has been the effect upon the health and lives of the family or families occupying this house and using this water? I am informed that they did not use the water at all times, under suspicion that it might not be good: still it was used more or less.

Forty-one years ago the place was purchased and occupied by a man then in the prime of life. He had seven children, some of whom were born before and some after moving upon the place. The father, mother, and all the children are now dead, except one.

The date, age, and cause of death, as near as I can find out, are as follows:

1849, a son, age 18 years; cause, typhoid fever.

1849, a daughter, age 16 years; cause, typhoid fever.

1863, a son, age 28 years; cause, consumption.

1871, mother, age 63 years; cause, gall stones; great sufferer from sick headache.

1874, a daughter, age 27 years; cause, consumption.

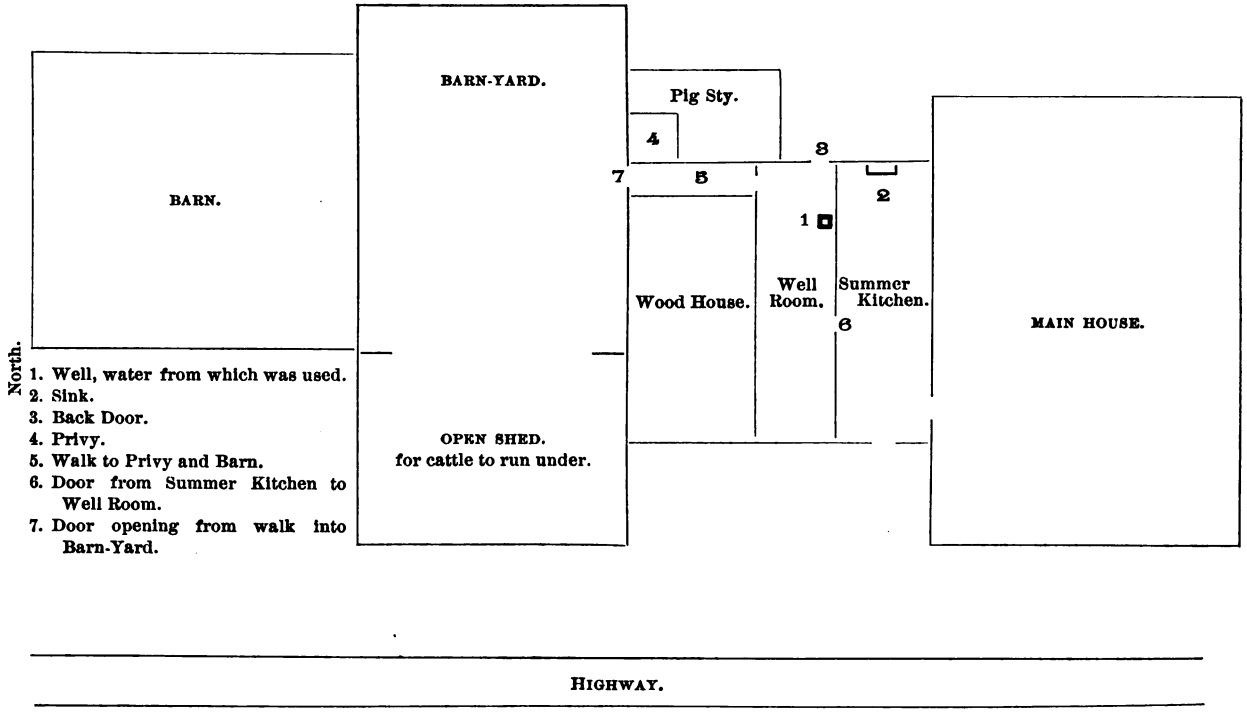
1878, a son, age 37 years; cause, consumption.

1879, a daughter, age 34 years; cause, consumption.

1879, father, age 76 years; cause, old age, feeble a long time.

1883, a son-in-law, age 47 years; cause, bronchial consumption.

This last was the only one of whom I had charge, and it was during one of my professional visits that I discovered the situation of the well. One of the first things of which he complained was sore throat and hoarseness, laryngo-pharyngitis. At the



1. Well, water from which was used.
2. Sink.
3. Back Door.
4. Privy.
5. Walk to Privy and Barn.
6. Door from Summer Kitchen to Well Room.
7. Door opening from walk into Barn-Yard.

DIAGRAM No. 2.

same time he was troubled with an eruption. I never saw it, but as he described it I should say that it was erythematous in its nature. If he exercised so as to perspire, or took hot drinks, it would make its appearance, causing the surface to itch and feel very uncomfortable.

During the spring and summer of 1882 he was under the care of various physicians, both regular and irregular, until the first of October of that year, when he came under my care, at which time he was troubled with cough and hoarseness, it being with difficulty that he spoke aloud. The stomach was very irritable, frequently rejecting food, and more often his medicine. Once when he was in my office for the purpose of consultation, I inquired in regard to his drinking-water. He told me that it was "splendid water," and all right; that he drank a great deal of it. At various times during the fall and early winter he would seem to improve, when some imprudence on his part would put him back. Finally he grew worse, as manifested by failing strength, loss of appetite, and by coughing and raising more, until his death.

The sputa was very tenacious, and at last was quite thick, and composed almost entirely of pus. A few weeks before he died I examined his chest thoroughly. There was no dulness over either lung, and he could fill both of them equally well. Auscultation revealed very heavy, moist rales.

About five weeks before the death of the father,—that was some time in January,—I was called to the house to attend his son, a lad six years of age, with dysentery accompanied with petechial eruption over the limbs and body. He recovered slowly. In about two weeks two other sons, aged respectively eight and ten years, came down in the same way with dysentery and the eruption, causing them to scratch vigorously. The mother was troubled with the eruption, but no dysentery.

D. M. CURRIER.

THE RYE BEACH WELL,

which has attracted considerable attention the present season, and been the source of many false newspaper reports, is most remarkable in the history of water pollution. Briefly, the history connected therewith is as follows:

A wealthy Philadelphian by the name of Lewis, who has spent his summers at this noted beach for the last twelve years, bought last spring a lot of land, and built a very expensive and elegant summer residence. The location was upon an elevation some forty or fifty feet higher than the sea, and but a short distance from the water. This elevation is made up mostly of seamy ledges, with but a few feet of soil covering the same. From a sanitary point of view, no better site could possibly be selected.

Instead of building a sewer to the ocean for drainage purposes, he constructed a cess-pool forty feet distant from the house, into which all the sewage from the house ran. In building this cess-pool it was necessary to excavate three feet of the ledge to get a good and sufficient depth. Sixty feet from this cess-pool, and apparently upon the same level, was dug the well which was to supply this residence with water. After reaching the ledge, it was necessary to go ten feet into the rock to get sufficient water, which was obtained in abundance, and was excellent in quality. The well and cess-pool were both constructed at the same time, and in *two weeks after, the well was polluted by this cess-pool.* The family, not realizing the source of pollution or its danger, continued to use the water for a short time afterwards, or until it became so tainted that it was repulsive to the sense of taste and smell. The result was the death of Mr. Lewis and a lady visitor who lived in the vicinity, and frequently drank of this water, and a severe illness of a daughter of Mr. Lewis, his servant, and a guest of the family. These seemed to be cases of blood poisoning, the severer ones resembling in their last stage typhoid fever.

This instance of well pollution illustrates the fact that a rock formation, though generally believed to be the best safeguard against the contamination of a well, may be the most dangerous. The seams which existed in this ledge no doubt served as direct chanels to convey the filth to this well.

The following instance of well pollution seems to illustrate in what unsuspected ways water may become contaminated:

A short time since Dr. C. A. Wood, of Greenville, sent me several specimens of water for examination. The contamination of some of them was of such a character that I asked him

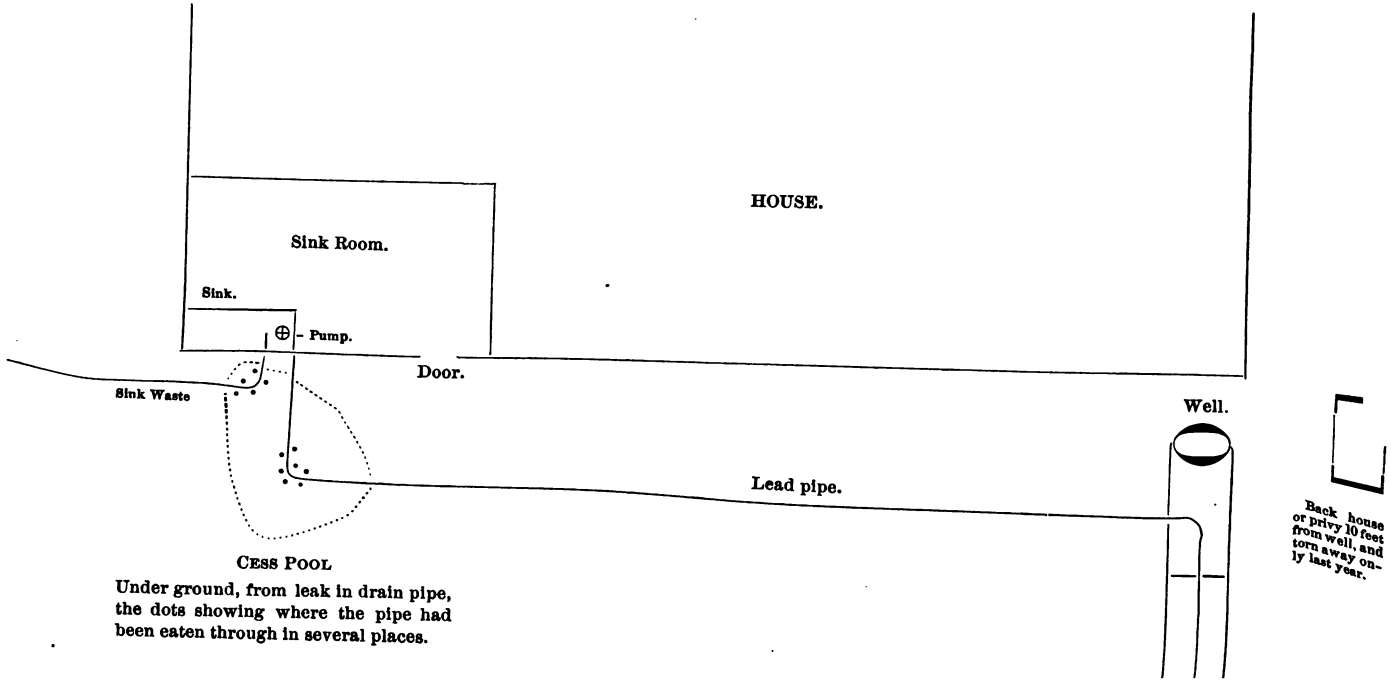
for a history of the samples. I will here state that the specimens marked "No. 2" and "No. 3" were both badly polluted, and with different substances, so that in testing the chemical reactions were quite different. In his reply to my letter of inquiry he says,—

"The water I sent you last week marked No. 2 was dipped directly from the well, as shown in diagram, while the water marked No. 3 was pumped from the pump. The family have been sick more or less ever since they occupied the house. *None of them have been well*, but it is exceedingly difficult to give a name to their complaints, except a general out of fix, with a dull, tired feeling, headaches, sore throats, furred tongues, &c., but no downright sickness so as to prostrate them."

It will be readily seen by the crude diagram that the cesspool filth which had accumulated around the lead pipe leading to the well, by reason of a breakage in the sink-drain, had corroded the water-pipe till it was full of small holes, which allowed this filth to be drawn in and mixed with the water every time any was drawn from the well. Such a condition is not likely to be of very frequent occurrence, but it demonstrates the fact that the source of water pollution may be sometimes subtle and unexpected.

In the foregoing paper it has been my aim only to present some points that will lead to a more careful consideration of this all-important subject, rather than to discuss the topic from a purely scientific standpoint. To awaken a deeper interest in the prevention of disease is necessary both in the profession and among the people, and I sincerely hope the medical men of our state will become the instructors and the guardians of the public to the extent that unnecessary sickness may be largely averted, and nature's gifts received in nature's purity.

DIAGRAM No. 3.



CESS POOL
Under ground, from leak in drain pipe, the dots showing where the pipe had been eaten through in several places.

REPORT ON PRACTICAL MEDICINE.

BY WILLIAM T. SMITH, M. D., HANOVER.

My subject is, Colds. I had intended to present to the society a discussion of some weightier topic, but I was constrained finally to take up the affection which has occupied so large a portion of my time of late as to leave little leisure for other work. It is by no means, however, an unimportant subject, though a familiar one. I am often reminded of a wise remark made by a professor of practice to a medical class which was excited over surgical clinics. "Gentlemen," said he, "go and see the great operations when you can: it is instructive and profitable. But remember that very few of you will operate for stone, and that most of you will have to examine a great many babies' diapers." The trivial matters constitute the larger number of our cases, and I think it will appear that those disturbances which may be fairly included under the term "colds" are so numerous, are at times so severe, and are so frequently the occasions and promoters of fatal illness, that they are worthy of the most serious attention of medical men.

What is a cold? A fair definition would be, An affection due to a lowering of the surface temperature of the body, whose onset is marked by chilly sensations, and which usually affects some portion of the respiratory tract. But this definition has its most obvious application only to a single class of colds. The chilling of the surface, though always present, may be so slight as to be unnoticed. Other parts than the respiratory tract may be affected. It may be the stomach or intestines, or the kidneys or bladder, the pleuræ or peritonæum. The joints or the muscles may be its seat. Many of the pathological con-

ditions which result from catching cold may arise from other causes. The initial stage of measles is identical with a cold in the head. Bronchitis may complicate several internal disorders. But as catching cold is the most common and obvious cause of these and similar conditions, it is always first suggested. As the word "bilious" drops like a balm into the inquiring mind of the sufferer from any digestive trouble, so when other suggestions in etiology fail we can fall back on this. Billroth, in discussing the origin of tumors, gravely affirms that they cannot be ascribed to catching cold. Almost every other disease is, though few carry their search for causes so far as the lady who ascribed her illness to a cold resulting from the removal of her thimble. We are doubtless on the safe side when we warn not only our sick patients, but also the victims of the dental forceps or the knife, to beware of catching cold.

A cold is a disturbance of the nervous system, dependent on a variety of conditions, external and internal, which gives origin to many diseases, and aggravates others. Disease may invade the system in two ways:—1st, by some virus or poison absorbed into the blood. This is the method by which the germ diseases arise. Or, 2d, disease may be caused by an impression made on the nervous system. The nervous system presides over all the functions, and maintains their harmony. In response to the proper stimuli it calls into action the various organs. It regulates their activity largely by regulating, by its vaso motor branches, their supply of blood. Were it not for this regulating power the organs would be in a constant state of monotonous activity. The brain would never sleep, the stomach would be in chronic congestion, and the glands would always be equally supplied. Moreover, the delicate mechanism of the heating apparatus is kept in adjustment by the nervous system. Heat is produced in the tissues by chemical change, and as the activity of change in different tissues varies, the heat of the whole body is equalized by the constant current of the blood. Heat is always being produced, and is always passing off from the surface. When the surrounding air is warm, and the internal heat produced is more than sufficient, the nerve centres presiding send out the influences which dilate the arterioles of the skin, and a larger portion of blood is brought to the surface and

subjected to cooling influences. When heat is being lost too rapidly the superficial vessels are contracted, and the blood is thrown back into the internal organs. These are familiar facts of physiology, and I mention them only to illustrate the regulative actions of the nervous system, and the disorder which must follow if it is seriously disturbed. Temporary disturbances frequently occur, and are of all degrees, from the excitement of passing emotions of terror or anger or shame, to the severe disturbance which we call shock. A man eating his dinner hears bad news, and straightway the proper action of the stomach is checked, the blood seeks other organs, and he has an indigestion. Another has a severe blow or a fall, and all the bodily powers are temporarily depressed, though no tissue or organ is wounded.

The surface of the body is exposed to chilling influences. An impression is made upon the fine nerve endings. The arterioles are contracted, the blood is sent inward, and a general or local cold follows. Now there is no reason to suppose that this state of things is caused by the absorption of any material virus, nor is it due to a general low temperature of the system, for the temperature is higher in the chilly stages of a cold; nor is it a local chilling of the tissue, for the part chiefly affected is often at a distance from the part exposed, as when a man wets his feet, and gets a cold in his head. The result then is partly due to the throwing the blood in upon the internal organs, but chiefly to an impression conveyed through the nerves. No one questions that a chill is a purely nervous phenomenon. The chills that accompany a cold are of the same character. The possibility of the invasion of disease through the nervous system, which is almost overlooked in this day of germs, is no new thought. Long before we had reached our present knowledge of its relations and functions, Dr. William Cullen, a Scotch physician and writer of great eminence in the last century, held and taught the following theory of the etiology of typhoid: The exciting cause of the fever, which was, he said, "some contagion, marsh miasm, or cold," made its first impression on the nervous system, diminishing the energy of the brain, thereby producing a debility in the whole of the functions, and particularly in the action of the extreme vessels, causing a spasm

of those vessels. The blood is by this spasm driven from the surface in upon the viscera. The excess of blood stimulates the heart, and causes it to act so vigorously that the brain in turn is stimulated, and the superficial vessels are relieved of the spasm. Active secretion follows this relaxation, and the system is freed from disease. It is interesting to note how, in constructing this theory, his genius grasped at facts with regard to the nervous control of the circulation which have only recently been established. Exactly what the disturbance is in the organs where the cold fixes itself, we do not know. We are too ignorant of the physiology of the nerves. The throwing of the blood in upon the viscera is one factor, but is not all, for this constantly occurs in health. When we know more of the delicate and complicated action of nerves, sensory and motor and vaso motor, inhibitory and dilator, and trophic and heat-producing, we may be able to tell. We can only say now that the facts and reasonings adduced lead us to believe that catching cold means primarily a disturbance of the nervous system.

The most important of the predisposing causes of colds is the general state of the body. If the vital powers are depressed from any cause, as illness, fatigue, emotion, or bad air, as after sitting in an unventilated assembly-room, one is liable to catch cold. On the other hand, there are times when we are consciously able to defy any exposure. The log-drivers in our rivers, with feet constantly wet, do not often catch cold. But I remember assisting a delicate lady into a carriage one hot day, late in June, when, after closing all the curtains, I handed her a hot water bottle, which she required to prevent catching cold. Habit is a most important predisposing cause. One who lives out of doors, as a rule, catches cold less readily, and overcomes it sooner, than the sedentary in-door man. Some are by natural constitution much more susceptible than others. Plethora, general or local, is a predisposing cause.

Cold and dampness, especially when the two are combined, are the chief proximate causes. This is proved by the fact that colds prevail most not in the hot tropics, or the cold but dry arctic regions, but in the temperate zone, and that it is in the cold and rainy weather that they are most numerous. Other atmospheric conditions are undoubted influences. It is often

said that one does not catch cold at sea. I know an old sailor who is peculiarly susceptible to colds, who tells me that he never had a cold out at sea, but always got one when he came on soundings. People will often catch cold in changing climate, and as often will get rid of one in the same way.

An epidemic catarrh of the respiratory tract has visited Europe and America many times during the past six centuries, which has been regarded as a specific disease. On the theory that it was due to some influence of the stars, it was called by an Italian writer influenza. Its symptoms are at first those of a common cold, beginning in the head, and descending to the bronchi, invading also at times the alimentary canal. It differs from ordinary colds in its extensive prevalence, in the severity of many cases, and the nervous prostration that accompanies it. More than thirty of these epidemics have been enumerated, beginning in 1323. The last was in 1843. It has moved over Europe, either from east to west, or from the south northward, and attacks almost simultaneously half the inhabitants of a particular region. It passes off in about six weeks.

An article in the Boston *Medical Journal*, written in the spring of 1833, says,—"In England and Ireland the people are sorely afflicted with epidemic catarrh. In London this disease is so extremely rife as to have checked almost every species of business and pleasure. The theatres are closed on account of the sickness of those whose presence on the stage constitutes their chief attraction. The courts of justice are suspended by the indisposition of judges, jurors, and jurists. The directors of many public charities are unfortunately incapacitated for business, and the hospitals are advertising for extra nurses. Nearly eight hundred of the police officers are reported absent in one week, and lords and ladies participate largely in the distresses of the season. It is said that there is scarce an inhabited house in London that has not been visited by the epidemic, though it has been most severe among those who live in low and damp situations."

One of the first of these epidemics, of which there is any record, was in 1570. The symptoms were severe pain in the eyes, sneezing, heaviness, difficulty of breathing, hoarseness, loss of strength and appetite, fever, and harassing cough. Its course

was north-westerly from Malta to Great Britain. It raged over all Europe, says the narrative, not missing a family, and scarce a person. In 1557 another attacked all parts of Spain at once, so that the greatest part of the population in that kingdom were seized with it almost on the same day.

When the disease chiefly affected the head, vertigo, violent headache, greatly increased by the cough, and delirium, were not infrequent. There was hæmorrhage from the nose, and pain in the ears. In some cases the tonsils and back part of the throat were inflamed, so that suppuration was the consequence. When the violence of the disease fell upon the lungs, as in old people, asthmatic patients, and in those predisposed to phthisis, hæmoptysis was not infrequent, and a troublesome cough which prevented sleep. It often degenerated into pleurisy and pneumonia. In common cases the cough became loose in three or four days. The stomach was affected with nausea in many, and with vomiting in some. In several instances of epidemic catarrh a morbid determination to the intestinal canal was manifest from the beginning. The duration of the complaint was from a day or two to a week or a fortnight. In some, the symptoms, after abating, in two or three days returned and raged with violence. One of the most remarkable features of influenza is the debility it causes. Many could not rise from the horizontal posture without sudden faintings, even in the stage of convalescence, and the debility often remained for a considerable time. The suddenness of the invasion, the pain and tightness in the forehead, with pain in the back, knees, and muscles, and singular prostration of strength, were thought to be distinguishing marks between influenza and common catarrh. Flint calls it an essential fever, running a brief career, with bronchial inflammation as its chief anatomical characteristic. Niemeyer says, "With this repeated reäppearance of the malady, the vicious custom has gradually crept into use, both among physicians and people, of calling all the new epidemic bronchial catarrhs influenza, when associated with violent general disturbance, and showing unusual obstinacy."

I have referred thus to the influenza for the purpose of raising the question whether the vicious custom of which Niemeyer speaks is not possibly in harmony with the facts; whether, in

other words, the severe catarrh which has visited many parts of the country during the past season be not a genuine influenza.

True, the accounts quoted above represent a much greater severity than we have experienced, and more universal prevalence. But allowance must be made for exaggeration by writers whose sources of exact information on such a subject were not what they would be to-day, and whose less rigidly scientific habit of thought led them to give more play to imagination. The symptoms which they detail we recognize as characterizing cases which we have all seen during the past season: the coryza, the sore throat, the gastric disturbance, the bronchitis, the liability to relapse, the very debilitating effect, the tendency to pneumonia and pleurisy, and the fatality in case of feeble persons. Cases presenting such symptoms have been uncommonly numerous, I doubt not, in the experience of most of those present. The distinction seems rather one of degree than of character. Epidemic influenza has usually been ascribed to a specific germ in the atmosphere, and many of the facts strongly corroborate this view. But I suggest to-day a different one, namely, that not only the common bronchial catarrhs and those of a more epidemic character, such as we have experienced this year, but even the great historical epidemics referred to, are simply colds having a common cause in the atmospheric conditions of coldness and humidity. The great epidemic influenza has always been a disease of spring and autumn. It has followed the opening spring northward. It has generally been associated with cold or dampness, or great change in weather. In this country, the past season, remarkable for catarrhs, has been remarkable also for cold from Maine to Texas. The temperature, except at a few scattered points, has been below the average. From the records kept at the observatory in Hanover, I find that the first five months had a lower temperature there than those of any other year, except one, for the past ten years. I find, also, that the humidity has been higher than that of any other of the past five years, with the exception of 1882, which was an open, rainy winter. So that we have had the two conditions productive of colds—cold weather and dampness—in a very high degree. These conditions, long continued, are per

haps sufficient to account for the catarrhs, without supposing any infectious or contagious germ.

The treatment for a cold depends on its stage, for it resembles a zymotic disease in that it is cyclical, and must have its course when under full headway. In the first stage it may be aborted. The agents for the purpose are diffusible stimulants and diaphoretics. These relax the blood-vessels of the skin, open the pores, and stimulate the heart to relieve the congestion which is taking place in the mucous membranes. They restore the tone of the nerve centres. After the first stage has passed, and the cold has fairly settled on some internal organ, attempts to abort are useless, and we must treat symptoms;—if the fever is high, with aconite and sweet spirits of nitre; if the cough is tight, with depressants; if there is constipation, with calomel and good hygienic advice. If the stomach and bowels are in good condition, and the only disturbance is a loose cough, expectorants are in order. We have several remedies, as the balsams, quinine, chloride of ammonium and atropia, which theoretically ought to check the inflammatory action in the bronchial tubes, but I must confess I have not great confidence in them. I should rejoice to find the remedy that would do this.

In dealing with colds, prophylaxis has the most important place. A cold being primarily a disturbance of the nervous system, everything that helps to maintain the vigor and power of resistance is prophylactic. This is especially true of that portion of the nervous system on which the morbific impression is made, that which lies in the skin. This organ requires, for the maintenance of its health, care and exercise. It can adapt itself to almost any surrounding conditions, and it has all degrees of sensitiveness. The natives of Terra del Fuego, in a climate as cold as that of England, wear no clothing, except a skin hung over the windward shoulder; and their children play naked in the open air at a temperature of forty degrees. The civilized man, loaded with clothing and living in warm rooms, is chilled if the mercury drops five degrees. When all exposure to the natural stimulation of the air is avoided, the skin becomes soft and delicate and over-sensitive. Its nerves are easily disturbed, and its functions easily checked. Too much clothing

and too sedentary a life relaxes its tone. Under these conditions we must use special means for maintaining it.

Of these means I believe frequent bathing is the most valuable. Man is not an amphibious animal, but a daily application of water to every inch of his skin, followed by friction sufficient to recall an active circulation, is of very great advantage. Thus the muscular fibres, the nerves, the vessels, and the secretory glands are stimulated and invigorated. The unexpected draught does not strike upon a flabby tissue, whose arterioles are ready to close, like the leaves of a sensitive plant, at the slightest breath, but upon one whose response is greater activity and vigor. Bathing is sometimes overdone by too long application, by the use of too cold water, or by lack of care to secure a warm reaction after it; but, with due precautions, I believe that if a daily sponge bath were taken, summer and winter, by every individual in ordinary health, the number of colds and the fees of the doctors would be very greatly diminished.

ADDRESS BEFORE THE GRADUATING CLASS, DARTMOUTH MEDICAL COLLEGE, NOV. 14, 1882.

BY D. W. JONES, M. D., PORTSMOUTH.

Mr. President, and Gentlemen of the Graduating Class:

I have no apology to make for appearing before you to-night. A good soldier never shirks duty, though death be the probable issue. Neither does he without orders court a conflict with the enemy; it is his province to obey. And so in obedience to the call of our state society I am here to-night to discharge a time-honered duty.

Said a drunken division commander to the captain of a vessel to which I was unfortunately attached, in my professional capacity, during our late war, "Go up and engage that battery!" Said battery was situated in a bend of the Mississippi river, in a commanding position. and for one feeble gunboat to attempt its passage was almost sure disaster. But the command was, Go! And we went, but were neither disabled nor sunken. We went, but as quickly returned, thus verifying the old adage,—

> "He that fights and runs away
> May turn and fight another day."

And so, gentlemen, I am here to-night for this engagement.

Military science has its "point d'appui," lawyers their "briefs," and ministers their "texts," and to-night I must base my remarks upon something that will support the superstructure that I hope to raise. And so I have chosen for my subject "Measure for measure." Not the "tit for tat" or "*quid pro*

quo" method. Not, of course, as a law of retaliation would I approach this subject to-night or apply its principles, but from a recognition of that vital truth, that there can never be a harvest without a seed-time; and in proportion to the seeding and the culture shall be the ingathering.

To-day completes the curriculum of study necessary to procure your degree. This you have already obtained; but a vast ocean of truth stretches out before you. Yesterday you were students; to-day I hope you are likewise so;—let us also hope you will be students while you live. We call our profession a science, but except in the domain of anatomy, and a few of the collateral branches, there is nothing positive. Physiological research is continually developing new functions of organic life; and to keep progress with the latest researches and discoveries requires our constant application. True, in the early years of your lives, as students and practitioners, will mainly be your seed-time. Then scatter with a liberal hand the seed of diligent application. This need not be a drudgery, but a pleasure. We are creatures of habit. Our minds may be cultivated to relish either fact or fiction. Truth may fall upon our palates or nourish and strengthen our intellects with its inherent force, just in proportion as we cultivate a taste for the one or the other. We may fill our vessels from the fountain of truth and grow wise with advancing years, or be subjected to the toil, as Cowper says, of

> "dropping buckets into empty wells,
> And growing old in drawing nothing up."

It is just as easy to cultivate a taste for solid reading, as for light literature; for useful employment, as for frivolous pleasure; for intelligent and refined society, as for the illiterate and vulgar.

I am aware that to most of you the choice of work or pleasure will not be optional. It will be work in large doses, and pleasure in homœopathic dilutions; and yet the fact remains, that "pleasure before business" can be made a principle of action, with its corresponding "measure for measure" in depleted pocket and neglected interests.

We will look at the subject from its professional or intellectual, its social and its ethical, aspects. First, from its pro-

fessional or intellectual aspects. Study to improve in professional skill and the acquirement of professional knowledge. If it is your peculiar province to be a teacher, you must remember that it is yours to be a learner also; and in this, too, it is "measure for measure." "Give, and it shall be given unto you." Teach, and by the very reflection of the act you shall be taught. Seek to *know* something. Definite knowledge is worth more than the mere pecuniary rewards its acquisition will afford. The acquirement of positive knowledge brings a man into closer assimilation with his Maker. And although man by wisdom "can never find out God," yet the development and use of those powers with which God has endowed him ought to bring him into closer sympathy with his Maker. This it will do if the moral sensibilities have not been obtunded by sin, nor blunted by false theorizing, nor the intellect been clouded, as some one says, by

> "False laws, that make a tension in the life,
> And set the soul at variance with itself."

"The secret of the Lord is with them that fear him," and David might have added, Study Him. So the secrets of nature and the laws of life are revealed only to those who dig for them by close study and accurate observation. In proportion as you learn to observe, will your powers of reflection be strengthened. A person may see without thought; but to observe means to think: thought must accompany.

Life, it is said, is the "key to all things." Carlyle says, "Labor is life;" therefore labor is the key to all things. Then labor to study life in its wonderful and varied manifestations, both of health and disease. It is your study, and "never yet was task imposed on mortal man that did not bring its recompense." *Labor omnia vincit.* The compensation to you will be a more thorough knowledge of that complex and wonderful machine, the human body, and that occult, mysterious, and powerful force, the human life. To this end be not niggardly in the acquisition of a useful library. Money spent in this way will be returned a hundred fold. The very presence of books is a stimulus to study. The ambition to acquire a science has often been aroused by the presence of a book.

It is amazing what the unaided intellect can do moved by the resolution of a strong will. Edmund Stone, the son of an English gardener, became profoundly learned in mathematics and ancient and modern languages by self-teaching. His father's master one day seeing a copy of Newton's Principia lying on the grass, interrogated the young man, and found it was a part of his amusement to snatch time from work to study. He had previously been taught to read by a servant, and, said he, "Does one need to know more than the twenty-four letters in order to learn everything else one wishes?" Who has not heard of Roger Sherman?—a man who never went to school a day in his life, and yet by his own efforts, unaided either by private or public tuition, became eminent in law and politics, who from the shoemaker's bench rose to the supreme bench of the court of Connecticut, becoming a member of the continental congress, and subsequently member of the senate.

In our own profession, in this country, no better illustration can be mentioned than Dr. Dewees, formerly professor of obstetrics in the University of Pennsylvania. And need I mention here the name of the illustrious man so early connected with the medical department of this college, who for twelve years was sole professor, lecturing in all its branches,—Dr. Nathan Smith.

Nothing but the great success and superior advantages of his brother William ever stimulated John Hunter to the study of medicine, after having worked three years at the cabinet-makers' trade. It was possibly the stimulus of Hunter's wonderful success that incited his pupil Jenner to a noble ambition also to do something for the race by adding to its store of knowledge, and securing immunity from a horrible disease. You say it was genius, and possibly it was: but probably it was energy and perseverance under the stimulus of a desire for the acquisition of knowledge.

Besides standard works on all subjects pertaining directly to your profession, you should have works on the collateral sciences; and if you have not access to a good library, you will need, in your own, dictionaries, encyclopædias, gazetteers, and other works of reference. If you have but a smattering of a language, a lexicon will be inestimably useful.

While I say this, I bear in mind a noble sentiment expressed by Dr. Dobell in the opening of one of his chapters in the valuable little work on "Coughs, Colds, and Consumption," viz.: "However much a medical man's tastes may tempt him to devote his time and energies to the purely scientific departments of his profession, he must never lose sight of the fact that he is neglecting his duty in proportion as he allows himself to be led away from such studies as have a practical bearing upon the prevention, relief, and cure of disease. There ought to be no alternative in his mind between giving up practice altogether, and devoting all his best energies to making his practice beneficial to his patients in the highest possible degree."

Said an eminent physician of this state, formerly connected with this school,—"If I have any claims to superiority in my profession, it has been due to the money expended in books." Good medical journals are a necessity to the progressive physician. New surgical appliances and remedial agencies are being continually discovered; and he who fails to make himself acquainted with the latest advances in his profession, fails not only in his duty to his professional protegés, but also in his duty to himself. Not only their interests will suffer, but he himself will grow narrow-minded, opinionated, and perverse; while a familiarity with the latest discoveries, theories, and systems will make him liberal-minded, thoughtful, and progressive. He will also be better qualified to discover truth, and by applying it in practice add something to our accumulating store of knowledge. It is a positive duty every man owes to his profession. I say *owes*. To owe implies a value received. You say you have received no appreciable value? Has Harvey or Farraday added nothing to your stock of knowledge? Has Jenner contributed nothing to your wisdom or safety? What they have done for you and this age you are bound by the strongest moral obligations to strive to do for the coming age. It may not be yours to discover an induced current of electricity, or a physiological fact so important as the circulation of the blood, but the field for discoveries equal to Jenner's is open to you all. That other diseases besides small-pox may be produced in a modified form is a well proven fact. He who will apply to

scarlet fever,—that scourge of childhood and terror of parents,—the analogue of the vaccine disease, will render himself as immortal as Jenner. It may be a member of this class.

While intellectual culture is of the greatest importance in promoting professional success, it is also necessary to remember that social culture is of almost equal value to the same end. "He that would have friends must show himself friendly." To cherish a feeling of proud independence is professional suicide. A manly independence and determination to do right, and to keep

> "virtue's simple path before your eyes,
> Nor think from evil good can *ever* rise,"

is always to be commended.

Pope, in his "Essay on Man," fully recognizes this principle of unconscious reciprocity in social relations, and beautifully says,—

> "Man, like the generous *vine*, supported lives;
> The strength he gains is from the embrace he gives:
> On their own axes, as the planets run,
> Yet make at once the circle of the sun,—
> So two consistent motions act the soul,
> And one regards itself, and one the whole.
> Thus God and nature linked the general frame,
> And bade *self-love* and *social* be the same."

You are all looking for and expecting success, and no doubt would value the best means of attaining it. Remember, that great knowledge with little tact will fail, where little knowledge with great tact will be sure of success. Tact is only wisdom rightly applied.

I regard as one of the first conditions of success a cheerful temperament. We are not all born with this qualification in perfection, but there is no one who has it not in some degree. That man's condition is abnormal and pitiable who always sees the dark side, with never a ray of light shining through, while that man's temperament is enviable who is blest with continual cheerfulness. Solomon says, "A merry heart maketh a glad countenance."

Mark Akenside, the English counterpart of our Holmes, being both poet and physician, and acquiring celebrity in both callings, in his "Hymn to Cheerfulness" says,—

"Thou Cheerfulness! by heaven designed
To sway the movements of the mind—
Whatever fretful passion springs,
Whatever wayward fortune brings,
To disarrange the power within,
And strain the musical machine;—
Thou Goddess! thy attempting hand
Doth each discordant string command,
Refines the soft and swells the strong,
And, joining nature's general song,
Thro' many a varying tone unfolds
The harmony of human souls."

Be cheerful, be hopeful, but be honest! Hope is the anchor of the soul; cut the cable which holds it, and it will soon part from the body. While holding out hope when justifiable, do not cry Hope! hope! when there is no hope. Be cheerful and hopeful if possible to the last, but do not for your own sake and standing before God, for "lying lips are an abomination unto Him,"—do not encourage a patient in the hope of living, when you know that death is sure, and eternity opening before him. The cases are not many in which we can surely prognosticate a fatal issue.

In the vast majority of cases there is some hope, and even in those cases which appear hopeless, I advise you, if there be a possibility of error, to let it be upon the hopeful side. There are certain cases of advanced phthises and organic disease of the heart where the symptoms are unmistakable. To hold out hope of recovery in these cases, encouraging delay in arranging the patient's temporal affairs, and, what is of vastly more importance, his soul's interests, is culpable injustice. That physician who does it will be held to a strict account at the last grand measuring.

To encourage a patient in the hope of getting better when you know him to be dying, is not only unjust in the highest degree, but dishonest and culpable. You cannot cut off hope by an honest opinion, gently and honestly conveyed, if there is no hope. Intelligent beings with immortal souls do not want to die like beasts, supremely unconscious of approaching ill. "Getting better! I think you will get well!" was said to one almost in the throes of approaching dissolution. "Well,

old man, you're almost through, ar'n't you?" was said to another also *in extremis*.

These are typical cases, from personal knowledge,—the extremes of psychological treatment, both equally unjust; the one sympathetic, but dishonest, the other heartless, though truthful. Endeavor to observe a just balance between sympathy on the one hand, and honesty on the other. Cultivate a sense of tenderest sympathy, but be not warped by it into falsehood and injustice both to yourself and to your patients.

Do not deem me fanatical if, to secure this end, I recommend to you the Christian religion. I look back through the vista of the ages, and I see One whose life makes an epoch in the history of mankind. Looked at from its human aspects alone, it was a life of unselfish devotion to the welfare of his fellow-men. His benevolence took in the whole race. His was an eminently social nature, although he assumed the prerogative either to entreat or to command. He loved his kind. He mingled within their social gatherings, and sympathized with them in their troubles and sorrows. He is our great example. We are not to measure ourselves by ourselves, or we shall never rise above our own standard; but measuring ourselves by this grand example, we shall have measure for measure in a life transformed by the renewing of faith into the image of the Son of God. This only is true manliness, and thus only can true manliness be attained. To steady the purpose, balance the mind, promote cheerfulness in the hour of anxious watching, give fortitude in the hour of peril, it is the very *ultima thule* of all training. In him who has these qualities they may be greatly enhanced, and in whom they are deficient they may be developed more effectively than by any other agency.

Cultivate a respect for the opinions and feelings of others,—a deference for views honestly held, though they may differ from your own. Be not rude in repulse, but easy to be entreated; not intolerant in opinion, or dogmatic in assertion, but ready to accord a proper hearing and consideration to other men's views, remembering this, that all truth except revealed truth has been evolved from error. There probably never was a perfect sylogism until a sophism had preëxisted. In all systems we find some truth; and let us remember that our system of practice is

not an allopathy, but a true eclecticism. As practitioners of rational medicine, dogmatism and exclusiveism are not our methods. We accept truth wherever found, and, when proved to be so, practise upon it.

In mediæval legislation the *lex talionis* was at times the regular process of the law. If a person accused another of theft, murder, or any other crime, he himself, if his accusation could not be sustained, must be prepared to surrender his property, and even his life. While condemning the severity and injustice of this law, we can but see that modern legislation has, by its leniency to the accuser or villifier, held out an actual inducement to villification and scandal. For instance: How often has the hope of gain led to charges of malpractice, and the consequent blackening of professional character and standing, when the accuser had the possibility of gain before him, and nothing to lose—not even the cost of the suit. The *lex talionis* involuntarily prevails in human dealings. As we find humanity at present, we find love, duty, and good-will contingent upon reciprocity. This is human nature, as we find it unregenerate. Christ, it is true, taught a different method,—duty without reciprocity, good-will for emnity, love for hate.

We should look at duty not from the human but from the Divine standpoint, and, like the Father into whose family we hope to be adopted, let our favors fall upon the good and bad alike. Even ecclesiastical law recognized and practised the *lex talionis* for ages; yet, as the understanding of mankind was improved by the advancement of Christian civilization, the rigorous enactments of mediæval law have given place to the too lenient legislation of the nineteenth century.

Be sociable, but do not talk too much. Remember, that if "speech is silver, silence is golden." Garrulity in a physician is a sure precursor of that "familiarity which breeds contempt." Montesquieu says,—"Men who have little business are great talkers: the more one thinks the less one speaks." Above all, do not talk of persons unless to speak well of them. "Lord," says David, "who shall dwell in Thy holy hill?" "He that backbiteth not with his tongue, nor doeth evil to his neighbor, nor taketh up a reproach against his neighbor."

Brethren of the profession, for such you are to-night, while I

do not ask you to despise yourselves, I do ask you to despise those tendencies and that disposition of mind which would lead you to attempt to build your own reputation upon the ruin of another's. It is not the way to success, for remember you are but members of a common body, and in wilfully injuring the character and reputation of your professional confreres by a reflected action, you are sure to injure your own. If you live in a community where every physician says his brother doctor is an ignorant idiot, or speaks lightly of his professional qualifications or moral character, soon the community will begin to say the same, and there will be a call for more intelligent physicians. Let me read to you

A FABLE.

There was a city by the sea,
Which might be called
The paradise of doctors,
So few there were, so fairly treated.
But by-and-by jealousy crept in,—
Ill-will prevailed,—
And each man said his brother was a fool,
Or an ignorant dolt,
Who never went to school.
So good a testimony,
From those who ought to know each other best,
'T were hard indeed to doubt.
The people said, 'T is so;
We can't endure these half-bred intellects and moral quirks,
And so to College City we will send
For better doctors our bodies to amend;
Or scour the neighborhood around,
To see if there cannot be found
Men in whose judgment we can surely trust
To keep our bodies safely from the dust.
It was no sooner said than done,
When from the country all around
There came a flood of doctors.
'T was said their brains were more,
Their fees were less,
Which suited all their patrons best;
And soon, ah! soon, from being one
Where very few had all the fun,

They were overrun with doctors.
And from a place
Where each man took it easy in the race,
The competition grew so hard
The greater part were 'een compelled to starve.

Praise your neighbor, if you can honestly, and if you cannot, then say nothing about him. Rest assured it will never hurt you to speak well of your professional brother. If unjustly assaulted by those who have been the recipients of his favors, defend him, and by so doing add your weight to that ennobling *esprit du corps* which I am happy to say at present characterizes the profession.

Harsh and unjust criticism may return with full measure upon yourself. You owe good-will to all men, and particularly to those of your own profession. The spirit of the age demands it; the gospel of Christ requires it; your own interests call for it. See that the debt is squarely met, and freely paid.

Start right. Let others be present in your thoughts, not as subjects to gratify a mercenary avarice, but as fellow-beings to be loved and benefited. Base your business upon thoughts of self-sacrifice for them more than upon greedy hankering for "golden dust," and the interest you take in them and their affairs, by a natural result of the law we are considering, will make you more secure in their esteem and patronage.

Ours is an unselfish profession. To do good and benefit, yea, save the human race, was the mission of the Son of God. Would you have your life approximate this divine standard? Then learn to think of self less than the needs of your fellows; for he who sends the rain and sunshine upon the just and unjust alike, requires that we also shall bear with and relieve the grateful and ungrateful.

Ours is an unselfish profession. Who doubts that the discovery of vaccination was a blessing to mankind? Who doubts, as John Moore says, the practice is "not for the interests of physicians, considered as a trade." Our profession must be looked at from a higher standpoint. That it is so considered the faithful efforts to eradicate disease, and diminish the death rate, is attested by the earnest efforts in various states to arouse an interest in "state medicine" by the establishment of state

boards of health. Yes, ours is and should be an unselfish profession, and though mankind, through the fall, lost the moral image of his Maker, he yet retains traces of his divine parentage. For, as Gerald Massey says,—

> "There's no dearth of kindness
> In this world of ours;
> Only in our blindness
> We gather thorns for flowers!
> Outward we are spurning,
> Trampling one another!
> While we are only yearning
> At the name of brother!"

The life of Sir Astley Cooper illustrates in an eminent degree the principle of reflex action in human dealings and ethical relations. His biographer speaks of him as a man remarkable for his urbanity of manner and "genial nature," and "also for his social and friendly disposition." His great popularity and immense income were not altogether due to his wonderful skill, precision, and dexterity in operating, but to his hold upon the hearts of his patients through personal kindness and sympathy, thus illustrating the wise man's proverb already quoted,—"He that would have friends must show himself friendly;" and, as Pope also says, *self-love* and *social* are the same. As an illustration of this, it is said that having performed a serious surgical operation for an old patient from the West Indies, upon visiting him one day the old gentleman observed that he had "feed his physician, but had not yet remunerated his surgeon." He inquired the amount due, and the doctor informed him the charge would be "two hundred guineas!" "Pooh, pooh!" exclaimed the old gentleman, "Oh! I sha'n't give you two hundred guineas! There! that is what I shall give you!" And he threw his night-cap at him. "I thank you, sir," said Sir Astley; "anything from you is acceptable." He put the night-cap in his pocket, and upon examination it was found to contain one thousand guineas. Surely this was good measure, "pressed down, shaken together, and running over," in return, not for skill wholly, but for sympathy and kindness. It is recorded of Sir Astley that his

attention was equally bestowed upon the wealthy and the indigent.

One other anecdote his biographer relates as singularly illustrative of his character. He was upon one occasion consulted at his residence by a gentleman who upon leaving said nothing concerning the fee. Supposing him to be a gentleman who had been in better circumstances and was now unable to pay, he thought no more of the matter until he some time after received a note from the gentleman stating that upon going to the stock exchange he found a balance undisposed of, and had taken the liberty of putting three thousand pounds to Sir Astley's name. Though Sir Astley Cooper was greatly eminent in his profession, I can but believe that his name and memory have been transmitted to this generation as much through the powerful effects of his personal qualities as from his great intellectual ability.

To illustrate the working of the opposite principle, I may cite the life of John Abernethy. He was eccentric, and oftentimes rude to a remarkable degree. A few anecdotes will serve my purpose. A barrister had a small ulcer upon his leg, and he determined to apply to Mr. Abernethy. Aware of his eccentricity and impatience, immediately upon entering the room he began to pull down his stockings. "Holloa! holloa! what the devil are you about?" said the surgeon. "I don't want to see your leg. That will do; put it up! put it up!"

The patient did so, but justly dissatisfied with the imperfect manner in which his case had been considered, he, instead of the usual fee, placed a shilling only upon the table. "What is this?" said Mr. Abernethy. "Oh!" replied the barrister, "that will do. Put it up! put it up!" and coolly walked away.

Some of his patients he would stop with, "Sir, I have heard enough! You have heard of my book?" "Yes." "Then go home and read it." To a lady complaining of low spirits, he used to say, "Don't come to me; go home and buy a skipping rope."

Once a lady, who had injured her thumb, determined to meet him in his own fashion. Upon entering the room she merely thrust out her hand and said, "My thumb, sir!" "You, madam,"

said Abernethy, "are the only sensible woman I ever had for a patient." It is a fact, recorded by the biographer Petegrew, that the income of Cooper was largely increased by those "who had either quitted Mr. Abernethy in disgust, or felt unequal to the contest with such an antagonist." Cooper himself used to say (so Petegrew says) that Abernethy's manner was worth a thousand pounds a year to him.

These two men, Abernethy and Cooper, were two of the most remarkable men of the eighteenth century. Equally eminent in surgery, they were diametrically opposite in disposition and social qualities. They were of about the same age. Abernethy was born in 1765, and Cooper in 1768; one was connected with St. Bartholomew's, the other with Guy's hospital. While Abernethy's income was comparatively small, Cooper's averaged twenty thousand pounds a year for many years. Thus you see that the law discovered by Marshall Hall, the law of "reflex action," is not wholly physiological, but also psychological in its application. In our professional, social, and ethical relations, every word spoken and every act performed has a reflected influence, both upon ourselves and others, either strengthening the moral stamina of our characters, or weakening our determination for the right; either strengthening our hold upon moral and spiritual truth, or relaxing our grasp upon all truth; either giving us a stronger hold upon the affections of our fellows, or congealing the fountain of love and good-will.

Do you expect a full measure of professional success? Then remember and fulfil your obligations to society in a well studied profession, courteous demeanor, and gentle cheerfulness; and although you may never reach the standard of success which you desire by scientific attainments alone, it is possible by the exhibition of a large-hearted sympathy and geniality. To this end let me again recommend to you the religion of Christ, the Son of God. It will daily be to you in the arduous duties of your profession as "the shadow of a great rock in a weary land." The figure needs no elucidation. It is as strong as human imagination can picture it. This man Jesus is indeed "a hiding-place from the wind, a covert from the tempest." Storms will come: fair sailing and smooth seas are not characteristic of life. We are as subject to vicissitudes

as the face of the deep. This hour it may be tranquil, the next it may be tempest-tossed. We need on board our little barque the potent voice which spoke on Galilee, that when we are tossed and driven by the wind we may hear him saying to the disturbed elements, "Peace! be still!" To our own hearts, "Be of good courage, I have overcome the world." Then true to self and to your fellow-men,—

> "The iron may enter in and pierce the soul,
> But cannot kill the love within thee burning;
> The tears of misery thy bitter dole,
> Can never quench thy true heart's seraph yearning
> For better things; nor crush thy ardor's trust,
> That error from the mind shall be uprooted,
> That truth shall dawn as flowers spring from the dust."

Your life is not marked out for you, nor foreordained; neither will you be left like a barque upon a stormy sea, without helm or compass. Life is *not*, as Emerson says, "the pitching of a penny, heads or tails," but will be "measure for measure what you make it." Sow to the flesh, and you "shall of the flesh reap corruption;" but "sow to the Spirit," and you "shall of the Spirit reap life everlasting." Misfortune may come, but *ne cede malis*, yield not to it. It will come to some of you soon, perhaps. Learn to look up, and the lesson will not have been in vain, and you also may say in the language of Virgil:

> "*Non ignaria mala miseris succurere disco.*"

"Not ignorant of misfortune, I learn to pity the miserable." How applicable to the duties of our profession! Poverty and sickness! What worse misfortune can assail a man? May God grant the day may be long postponed when any of you must learn by bitter experience how to pity the unfortunate. But think not "the worse" will not at times be made to appear "the better cause," for under the guise of friendship and sympathy for the unfortunate you will be solicited to practise a criminal procedure. Touch it not. Is it not equally culpable to take that life which has just begun to live as to take the one about to die? There is very little of life in either case: but life it is, however small in degree, and none the less an emanation from

the deity. You must not harm it. Let no desire for patronage, promise of reward, or proffered friendship, lure you from the path of duty, and from the number of those who with "clean hands" and "pure hearts" shall at last stand with God. In the great summing up, it will be "measure for measure." "Inasmuch as ye have done it unto one of the least of these my brethren, ye have done it unto me." It has been said by some one,—"He serves God best who serves his creatures." I say he will serve his fellows best who serves his God, and he who loves his God will also love his fellow-men.

The concluding words of Bayard Taylor's Ode to Freedom may with great propriety be addressed, in concluding, to our profession:

Look up, look forth, and on!
There's light in the dawning sky;
The clouds are parting, the night is gone,
Prepare for the work of the day.
Fallow thy pastures lie,
And far thy shepherds stray,
And the fields of thy vast domain
  Are waiting for purer seed
  Of knowledge, desire, and deed,
For keener sunshine and mellower rain;
  But keep thy garments pure:
Pluck them back with the old disdain,
From the touch of the hands that stain!
  So shall thy strength endure.
Transmute into good the gold of Gain;
  Compel to beauty thy ruder powers,
  Till the bounty of the coming hours
  Shall plant on thy fields apart,
With the oak of Toil, the rose of Art!
  Be watchful, and keep us so:
  Be strong, and fear no foe:
  Be just, and the world shall know!
With the same love, love us, as we give;
  And the day shall never come
  That finds us weak or dumb
  To join and smite and cry
  In the great task for thee to die,
And the greater task for thee to live.

ABSCESS OF LUNG.

BY DR. D. S. ADAMS, MANCHESTER.

In the case of Augustus Dubuc, of Manchester, N. H., reported at our last meeting, with request to report additional treatment and results, I have the following report: June 29, 1882, I put him on 1-10 grain of calcium sulphide every two hours, and commenced local treatment of abscess by washing it out with warm water through a silver catheter, introduced into the abscess. After washing it out with warm water three or four times, on July 6, 1882, I used a saturated solution of sodium chloride. After filling the cavity, which took between six and eight ounces, he began coughing and vomiting, and in these efforts he raised quite a large quantity of the solution. I then emptied the cavity, and washed it out with warm water. At this operation he complained of a pressed feeling, as if the solution were tearing the lung, probably from the weight of the solution, and I got away more pus and débris than at any other time.

I followed this with a one per cent. solution of carbolic acid every other day until August 2, with but little improvement in the condition of the abscess, but some lessening of the quantity of pus secreted. August 2, I repeated the injection of saturated solution of sodium chloride, following it immediately with warm water, then followed this every other day with one of the saturated solution of sodium chloride to two of one per cent. solution of acid carbolic, and got marked improvement. The abscess began to contract down, and the secretion lessened gradually. The chest wall began to flatten, and in so doing shut the ribs together, and nearly closed the opening. Until October 14 I gave ether, and removed a portion of the third rib

with the trephine and gouge. This gave me a free opening, and I found the abscess contracted down to about three ounces. This rapidly improved, and his weight increased to one hundred and twenty pounds until November 1 or 2, when he felt so well that he had to celebrate; and while under the influence of liquor he was out in the rain, and got thoroughly soaked. This was followed by a high fever and dulness over the right lung, and I supposed for a time my patient was having a run of pneumonia, but soon found the dulness confined to the vicinity of the abscess, and the cavity filling in with lung tissue from the lower and outer side. He ceased taking the calcium sulphide, as it sickened him. I continued washing the cavity till November 9, when the cavity was nearly obliterated; but a high fever continued, and November 19 another abscess broke through into the old cavity, and discharged from eight to ten ounces, as I judge from size of cavity that followed. I commenced the injection of the new cavity immediately with the same solution, and again put him on calcium sulphide as before, and followed it till the middle of January, 1883, when it had ceased to discharge, and he was as well as could be expected. About March 20, 1883, he had another spree, and it resulted in an acute attack of capillary bronchitis of the remaining portion of the right lung, considerable fever, and loss of appetite. This yielded readily under firwein and quiniæ sulph. first ten days, followed with the calcium sulphide until the present time.

PRESENT CONDITION.

Weight, 105 pounds; right subclavian and supraclavicular regions depressed; right shoulder slightly depressed; opening between the second and third ribs nearly healed; by considerable exertion he can force a little air through opening; no respiratory movement of upper part of the right half of the chest; dulness to the upper border of fourth rib in front and junction of middle, with lower third of scapula behind; respiratory murmur very much diminished over upper third of right lung, and bronchial in character; rhythm, normal. His appetite is remarkably good, and habits of body all regular, and he is again gaining in flesh. He is raising a very small amount of

clear mucus—from half an ounce to an ounce—every second or third day, and coughs some when lying on his left side, which indicates that there is a small cavity there yet, the walls of which are secreting this mucus. His left lung is expanding, and doing increased work, and, so far as I can determine, is perfectly healthy. Within three days the external opening has increased slightly in size, so that he can now force air out through it more readily. This has resulted from his repeated efforts to force air through it since I asked him to appear before this society, he possessing the delusive idea that breathing through the opening freely would make him more of a hero before this body. My patient is cursed with much leisure, and an irresistible desire to amuse that leisure with "wine, wit, and beauty" to his own ruin. Were it not for this, I should have much stronger hopes of his perfect recovery. His promises are good, but

> "the strongest oaths are straw
> To th' fire i' th' blood,"

and I can hope for nothing better in the future than I have seen in the past.

VENESECTION—ITS NECESSITY AND NEGLECT.

BY P. A. STACKPOLE, M. D., DOVER.

Mr. President and Fellows:

We live to learn. There are

> "tongues in trees, books in the running brooks,
> Sermons in stones, and good in everything."

The hand of the diligent maketh rich in knowledge as well as purse: so says the wise man. There is good in everything, but we have to seek diligently to find it. We really commence to learn our profession when we begin the practice of medicine. It is, comparatively speaking, book knowledge before that time, although a well stored mind is of the utmost importance—the solid foundation.

The study of physics is like the introduction of a book; it merely sets forth its principles. The young practitioner, if he has brains, and is diligent and a close observer, soon begins to fill his storehouse with practical knowledge, and by degrees will be accumulating his stock in trade during his whole life. Medical knowledge comes slowly, but by perseverance is sure to be attained. It grows as the tall cedars of Lebanon grow slowly beneath the nurturing sun and showers of passing years, sending their roots deep before lifting their branches broad and high. Gentlemen, knowledge in medicine comes not at the mere bidding, but by deep research, like digging for the precious metal, gold, that is buried down deep in the earth, and with untiring effort is gathered little by little until the receptacle is filled. To-day, as ever, investigators are widespread, all aim-

ing at coöperation towards the progress of anatomy, physiology, pathology, and therapeutics. They strive constantly at a discovery which may possess the power of preventing or controlling disease. To the physician this is the motive for incessant efforts, persevering lucubrations, and sacrifices of enormous character. The true mission of the medical man is to prevent, cure, or modify disease. Medical practice has in a measure changed, but man is the same being, sustained by the same powers, liable to the same diseases, soothed and cured by many of the same remedial agents that were used in early times; for what was true then is still true.

The great principles that underlie all true medical science remain ever the same, although changes may go on. The old doctors bled, and sweat, and purged, used potent medicines till they produced the desired result. They thoroughly diagnosed their cases, and then stormed the castle till they routed the enemy. They believed in bleeding, blistering, calomel, and opium, in whatever was demanded—in heroic treatment.

We talk of progress, and believe in it; but what advancement have we made towards cure?—for that is the great aim of all medicines, the real test of medical progress. It is true that we know more of the nature and progress of disease than our predecessors—of histology, surgery, and pathology. But can we cure more than they? Gentlemen, great responsibility is resting upon us, and anxious eyes are ever turned towards us with deep questionings the trembling lips may never utter. Treasures are committed to our care whose value no jewels of the mine can even symbolize. What momentous events depend upon the knowledge and skill of the doctor! What glory and recompense await him if he guides aright; what shame and remorse if he directs wrong!

Time naturally brings change: it is a law of nature;—and amid the great changes that have taken place in the progression of medical opinion we know of no remedy that has suffered more in the estimation of physicians and the public than venesection as a therapeutic measure. Knowledge with good judgment is the real skill in our profession; but with all that, we must be close observers and have experience. The young man just from his books may think that he knows all, and call the

old doctors "fogies." We would say to such, "Watch and wait," or you will never make a success in the profession. The old fathers of medicine must have been made of "good life stuff, with stern ideas and strong hearts fit for the foundation stones of an empire." The old doctor is often amused to see the new recruits, the light troops, sent out to watch and apparently to amuse the enemy; but when he is called, if not too late, "he buckles on his steel armor and his old red-coated continentals, and sweeps the field, and puts the enemy to flight."

We live to learn, and must have experience to fill our mission well. We have in our practice for some forty years ever been in the habit of bleeding in cases which we thought demanded it, the same as when, in the treatment of disease, we have given just what medicine in our judgment was needed. The practice of medicine requires great judgment and discrimination. There has been such a strong prejudice against venesection that we have virtually thrown aside one of the most valuable of all therapeutic means which the long experience of ages has taught us. Far back in time, in the remote days of antiquity, when the science of medicine was in its infancy and the healing art found to be a necessity, venesection was premised and practised for the relief of many maladies, and it being found to give prompt relief it had many supporters. No drug was known to equal it; nothing was to be relied upon as a substitute. The ablest experts in medicine recommended it and resorted to it. The ancient fathers of medicine promulgated its usefulness, and handed down to others the many advantages to be obtained by its use. It was considered a great discovery. We are aware that strong prejudices have existed against it for a series of years. The Thompsonians and Homœopathics have done all in their power to excite prejudice against venesection, calomel, and opium, the sheet anchor of the practice of medicine. They are to-day *non est*, while the regular practice of medicine stands firm as our granite hills. The eminent men in the profession have gone steadily along in the road of progression, correctly diagnosing their cases and treating them judiciously, whether bleeding, calomel, opium, or whatever other medicines were needed. We believe there are cases that demand bleeding to save life, and if we tax our in-

genuity and ransack the whole vegetable, animal, and mineral kingdoms to find a substitute, we shall fail most signally. Will the new remedies, such as tincture colocynth, veratrum veride, aconite, gelsemium, and many other like medicines, good in their place,—we say, will all or any of them fill the indications and effect the same amount of curative action in as short a given time as the abstraction of blood, in apoplexy, pneumonia, convulsions, tetanus, puerperal fever, cynanche trachealis, eclampsia?—and we might enumerate many other diseases where bleeding is the life-saving power.

If a patient comes to us for advice, with incipient symptoms of apoplexy,—head feeling bad, eyes suffused, carotids distended, pulse bounding and like a cord under the finger,—we would ask, Is there anything known to the profession that would do as much good, be as reliable, save life, as taking a pound or so of blood from the arm or temporal artery, letting it flow freely from a large orifice, which would avert the danger of a rupture of an artery in the brain and the thrombus that usually follow such a lesion, as well as the secondary symptons,—paralysis, coma, stertorious breathing, and even death? In all these affections many valuable lives would be saved, while a neglect of bleeding and a reliance on the substitutes might consign them to a premature grave. We are fully aware that the prejudice, and outside pressure, and the fashion of the day are difficult to oppose, and many of the timid of the profession have not the daring to follow their own judgment. Our motto is, Be sure you are right, make a correct diagnosis, and then go ahead though the "heavens fall;" for a consciousness of having done our duty makes us feel happy. Blood-letting is one of the best means used by physicians for the palliation and cure of diseases belonging to the healing art, or known to man, when judiciously used. It is potent for good, and equally so for evil when not indicated, and so with all other things that are good and valuable. We have taken blood when we thought the case demanded it, and we know of no substitute that would have accomplished so much, nor have we any regret for the past use of the lancet; and if we have erred it has been that bleeding was neglected. We deem it the anchor of hope in the diseases we have mentioned, as well as many others. One great objec-

tion made is, that it induces debility; but such talk comes only from the weak-minded and the effeminate in the profession. And what do they do? Instead of bleeding, they use those depressing, relaxing, and uncertain remedies of which they know but little, which are far more debilitating and more difficult to control than the loss of blood would be, when bleeding, had it been used in time, would have cut short the disease and put to flight the enemy.

Accidents happen in which there is great loss of blood. Hemorrhages take place in low forms of disease, and the patient, when well-nigh exhausted and seemingly exsanguineous, loses so much of the vital fluid that scarcely a red corpuscle is to be seen; yet he convalesces rapidly, and becomes as robust as he was wont to be. Can any suppose it to be an easy thing to control the issue of life, to arrest disease in its threatening career, or to invigorate the wasted frame? A correct diagnosis is the foundation of a proper treatment of disease, and in order to make such we must thoroughly understand the whole human system and its workings. The successful doctor must have brains, be well educated, have good judgment, be a man of close observation, with great power of thought and discrimination. He will then know what to do, and when to do, to treat disease successfully.

We would ask, Should congestion, arterial or venous, take place in a vital organ, as the brain, spinal marrow, or the lungs, what article of the materia medica would arrest the diastolic and systolic action of the heart, and remove the turgescence of blood, and relieve the organs in as speedy, safe, and effectual a manner, as the abstraction of blood? We have all seen pain relieved in a short time by bleeding, by the application of a few leeches, or by using the scarificator and cupping-glass, when only a small amount of blood was extracted.

Our observation and experience show evidently to us that all inflammatory diseases, as well as congestive and spasmodic, should be treated in their incipiency by venesection. It should always be resorted to while disease is in its initial stages: the vein should be punctured so as to admit a free flow until a decided impression is made on the system.

One good bleeding in the incipiency of disease is of more

value than half-a-dozen small ones that make but little impression on the circulation; then follow up the treatment as indicated with proper adjuvants, nursing, and diet, and soon we shall witness the violent symptoms abate, a mild crisis ensue, and a speedy convalescence. If the art of venesection should be lost, a great calamity would befall the human family and the world; therefore let us not lose the time-honored art of venesection.

Gentlemen, the healing art is one of mercy; the lives of thousands are entrusted to our care and in our hands. These lives are precious to their friends, and we should look well to their interest and our own reputation; build up a name that will endear us to our patrons and immortalize us forever, as have many of our predecessors.

I will now report a few only of the many cases, as illustrations of my experience in the treatment of disease by venesection, spread over some forty years of my professional life:

Case I. A lady 28 years of age, that I had attended and treated for several attacks of erysipelas, came to my office and said that she was about to have another attack, and asked if I could not stop it. She was full of blood, and quite stout, with bounding pulse. I at once made up my mind to bleed her, and did so freely; took a full pound; and on her way home the bleeding again commenced, and when she got home she fainted. I was called. She had recovered from fainting. I ordered tincture ferri chloridi. She lived in Dover some twelve years after that, but never had another attack.

Case II. A boy, some seven years old, fell from a horse, striking on the side of his head. I saw him some two weeks after the accident. He seemed confused and dull. I advised the attending physician to bleed him. His head was inclined to one shoulder. The doctor said that he had used many remedies without improvement. By consent, I opened a vein in the arm and took some eight ounces of blood, and very soon the head became erect, and the lad brightened up and was soon well.

Case III. I had a patient, a young lad, very sick with typhoid fever, and in the last stage was taken with epistaxis. He lived some two miles away, and when I arrived he seemed

almost bloodless—hardly a red corpuscle in the blood. I plugged the nostril with soft cloth, saturated with sol. per sulph. ferri, and gave him the same internally, and, notwithstanding the great loss of blood, he made a rapid recovery.

CASE IV. A maiden lady of 35 years of age, naturally strong and healthy and full of blood, caught a severe cold and had congestion of the lungs; cough with wheezing, much dyspnœa, and at times orthopnœa; could not lie down; pulse 110, and full; her nights were full of terrible suffering; lungs greatly obstructed. I advised bleeding, and took twenty-four ounces of blood. She at once said, "Doctor, you have taken a ton's weight from my chest." She was soon relieved, and began to improve.

CASE V. A young man 26 years of age, while in the mowing-field, was stricken down with sunstroke and carried insensible into the house, and I was sent for, two miles away. I had his feet put into hot water, with mustard, and bled him some twenty-four ounces. When I arrived he had twitching of the muscles, but the bleeding very soon quieted him; he recovered his senses, and in a few days was quite well.

CASE VI. While in a neighboring state I was asked by a friend, a retired physician, to go with him to the trotting-park; and while there a full-blooded, stout-looking, red-faced man was stricken down in an insensible state. We were asked to attend him. I advised his feet and legs to be put into hot water, with mustard, and rubbed briskly, and bleeding. I made a large opening in the arm, and took about thirty ounces of blood. He soon revived, came fully to his senses, and that night rode home two miles away.

CASE VII. I was called to see a young man who said that he was thrown from his horse when in the cavalry during the late war. I was not called first in the case, but when the family insisted upon having me the other doctor left, and the case was mine then. I found the young man had been having convulsions for two weeks daily. I bled him twenty ounces, and gave a teaspoonful of chloroform every six hours. He had no more convulsions, and was soon well.

CASE VIII. I was called in consultation to see a married woman, 30 years old. Her physician said that she had rheu-

matism of the limbs, with quite severe pain in the cardiac region, and some dyspepsia. He said that he had applied leeches over the region of the heart, and used various other remedies, but none of them was of much good. I carefully examined the suffering woman, watched her agonized expressions, felt of her nervous pulse, and watched her catching breath, cut off by the acute pain. I reasoned thus: This woman is stout and able-bodied, and rheumatism has attacked the heart; the circulation is obstructed and the heart crammed full of blood. We decided to bleed her, and took from her some twenty ounces of blood. The result was, her pain was greatly relieved; her anguish of expression was gone, and never returned. I advised a cathartic of calomel and jalap, each ten grains; sinapisms to knees and ankles, &c. She speedily recovered.

Gentlemen, I trust the position I have taken on the subject of venesection will commend itself to your notice—your sober second thought. I am glad to find some of our most eminent and distinguished men in the profession, at home and abroad, sustaining the view I have taken.

Dr. Sutton, in *Medical Times*, reports cases in which bleeding was resorted to, and in his opinion it was the only means to save life.

Dr. Richardson, president of the Medical Society in London, is out-spoken in favor of bleeding, and says the old doctors were right, and that bleeding, when judiciously used, is in many cases the only life-saving power.

Dr. Fordyce Barker, in the New York *Medical Journal*, says, in congestion of the brain, with coma, there is nothing so sure as bleeding. In convulsions and puerperal mania, and all similar diseases, venesection is of the greatest benefit; in fact, it seems the only remedy often.

The eminent occulist, Graefe, of Berlin, relies much on venesection as a means of warding off the serious inflammations arising sometimes after the extraction of the lens. He says it is a great preventive of inflammation.

Dr. Reed says that he would open the jugular vein in cases of asphyxia so as more quickly to remove the blood, and that stimulants will be of no good till after bleeding.

Dr. John Atlee, of Pennsylvania, president of the American Medical Association, in an address before the association at Cleveland, Ohio, in June, 1882, said that he thought the almost disuse of the lancet had been the cause of the loss of many valuable lives.

Dr. Brown-Sequard condemns emphatically the present practice and opinions of the profession, whereby venesection is neglected when actually needed. Most of our great lights in the profession say that it is the only life-saving power in diseases where it is demanded.

Dr. Bowditch, of Boston, says that venesection is destined again to be used, rationally, by the profession. He believes it should be resorted to in paralysis and numerous other diseases, when good judgment dictates it, the same as in giving medicines when needed and demanded to relieve suffering and save life. He thinks some patients are allowed to die who might have been saved by the rational use of the lancet. I fully believe with Dr. Bowditch, my old teacher, that many die because their attending physician was not wise enough and did not have sufficient skill and good judgment to bleed them.

Skilled medical knowledge is not found in all those who are called doctors, but in him who has seen disease in all its mysterious phases and exigencies, who has wrestled with it many times and in manifold ways, and who has grown to think and act upon the thought, understands the rational and right way to treat disease, and that right plan of action pursued patiently and perseveringly will, in the majority of instances, bring him out the conqueror in the end.

To treat the sick and raise them to health again, free from aches and pains, is a profession and a business higher, grander, and more honorable than almost any other business or calling in which any one can be engaged. Do we appreciate such a position, and do we realize the great good we are capable of accomplishing? If we do, not a shadow of discouragement will ever darken our pathway, for we shall continually, by our research and experience, grow brighter and more confident in the principles we cherish, and in the practice which lifts the body and the mind out of doubt and perplexity into pleasure and perpetual happiness. Our cause is progressive, and it

requires more knowledge and a better understanding of the truths and principles which the cause embodies, in order to be properly qualified and merit the name and position we ought to fill. The wants of to-day will not serve the needs of to-morrow. What little we can do now, and year by year, is like little seeds scattered by the wayside, which will germinate, and grow, and bring forth fruit and increase, according to the ground, care, and diligent nurturing. It is work that gains the goal and wins the prize, for we have nothing which we care to lose, and much that we care to gain: therefore we should have strong wills followed by strong deeds, such as will leave their impress as guides to our successors.

A mark set high and a plan well laid are not often found in the *débris* following a failure, but they stand out prominent as monuments of mature intellects, not easily shaken, much less destroyed. We know of no means by which success will come to our cause but by untiring industry.

VOLUNTARY PAPER.

BY DR. L. G. HILL, OF DOVER.

Mr. President and Fellows:

The act to regulate the practice of medicine in the state of Illinois has, since its enforcement, exposed over thirty individuals who have been falsely swearing to be graduates of foreign universities. The most recent case of the sort was that of a barber who assumed a dead doctor's name (Henry A. Luders), and who practised with the dead man's diploma. The latter was issued to Dr. H. A. Luders, May 15, 1866, by the University of Gottengen. The pretender presented the diploma for verification, but owing to some informalities in the affidavit no certificate was issued at that time. The diploma was found to be a genuine document, and being finally accompanied with recommendations as to the professional character of the holder, a certificate was issued to him by the State Board two years after his first application was made.

After a time suspicions were aroused concerning the medical qualifications of the man, and his right to the diploma in his possession. Inquiry was made of the dean of the University of Gottengen, resulting in the answer that the real Luders had graduated in 1866, and had died in November, 1878. These facts coming to the knowledge of the state authorities, it was resolved to prosecute the quack for felony. Unfortunately, before this could be done the sham doctor escaped.

It has since been learned that the rascal's proper name is Lambrecht, and that he is a barber by trade, but how he became possessed of the real Dr. Luders's diploma and other papers has not yet been ascertained. The letters of recommend-

ation finally forwarded by the fellow are pronounced forgeries. Some shocking instances of the miscreant's malpractice have come to light since his flight, among the most recent being the brutal butchery of a mother in labor and her unborn offspring. From the testimony of friends of the unfortunate woman it appears that he used a stick and piece of string in place of forceps, and, failing to effect delivery by this means, he eviscerated the infant with a common rusty case-knife, finally hacking it to pieces with the same instrument and taking it away piece-meal. The wretched mother was terribly injured during the performance, and died shortly after. The villain is now at large, and will doubtless settle in some adjoining state having no registration act.

About twenty years ago a man calling himself Dr. F. rode over a part of this state with a span of white horses and gay equipage, throwing out flaming hand-bills, and declaring his great capacity and wonderful cures; and while he was at Strafford a Mrs. S. was seized with an alarming uterine hemorrhage, and Dr. W., the only physician of the neighborhood, being a member of the legislature and away at the time, this so-called doctor was asked to prescribe for her. He came and directed that she should sit in a tub of *warm* water; and notwithstanding it would seem that every mother in town would know better than to subject her to such treatment, the directions were carried out, she was placed in the bath, which increased instead of lessened the flooding, and the woman soon expired.

This case is mentioned not because of the immediate fatal termination, but to show the gross ignorance of the man in prescribing a means for cure which every one who has given any study to the subject knows would have the opposite effect from that desired in such a case.

About ten years ago a man came to Dover with a fancy carriage and four small horses, drove about the city, advertised to treat all diseases and perform any and all surgical operations without pain. It is not known that he ever did so much of a surgical operation as to pick a splinter from a finger. Upon inquiry at his home it was learned that he was a man of cheap character, with no medical attainments or professions there, and while here in Dover met a physician to whom he said, "I don't

know one medicine from another; but the people want to be humbugged, and I am willing to do it."

Another came and advertised himself as an extraordinary physician from a large city, out for a change and rest, and while here would examine and prescribe for the sick *gratuitously;* but it was learned that he prescribed the same medicine for all, and had it put up at one place, and the apothecary was to charge two dollars for the medicine and give the *gratuitous* doctor one dollar.

It is said that a company of men in Boston had associated themselves together "to make money," and operated about as follows: They found several men of fair personal appearance and address, good talkers, and willing to perform the parts assigned them, then gave them an outfit and directions how to examine patients, what to say and do, what to charge for each case, and then sent them to various towns and cities in New England to advertise in the most extravagant way, telling of wonderful cures performed, and promising more than settled and well educated doctors would think of doing. They would usually claim to have graduated from some foreign medical institution, or to have occupied some professional chair in a large city, or to possess many titles and distinctions. These men by their large pretensions and strong promises induced many weak and credulous people to call upon them, obtain medicine or a prescription, pay a large fee, and find in a short time that they had been deceived, and that their itinerant so-called doctor had disappeared.

The foregoing cases are representative of a class of men that imposed themselves upon the people of this state prior to 1875, when the legislature of New Hampshire, knowing something of these abuses, seeing how ignorant pretenders were defrauding the confiding people, declaring ailments that never existed, taking large sums from poor persons without doing them any good, and often harm, that these travelling doctors were by their ignorance and fraudulent practices lessening confidence in men and means, and thus rendering them more unhappy, and diminishing their chances for good health and long life,—I say the legislature of New Hampshire, seeing these evils, passed a law compelling men, before holding themselves out as healers of the

sick or wounded, to show some preparation and competency for such practice. The law is *impartial.* Every physician coming into this state to practise medicine, surgery, or midwifery, no matter what his attainments or standing elsewhere, must satisfy a "Board of Censors," appointed for the purpose, of his qualifications or competency to practise, and must receive a license and have it recorded by the clerk of the court in the county where he resides or where he intends to practise before he can legally prescribe for any person in this state.

The law was *necessary*, because many citizens of our state, honest but ignorant regarding diseases and remedies, and having no satisfactory means of judging of one's ability to cure disease, and confiding in the professions and promises of these transient or travelling doctors, were often terribly imposed upon, large fees being taken, often from persons without means, and who, under the influence of strong promises of cure, even in incurable cases, have borrowed ten, twenty, and more dollars to pay these mere pretenders for means which do no good and often harm, either by directly injuring, or by standing in the way of proper means which might have been employed for restoration or relief.

The law is *good*, because it is calculated and has operated to protect the people from such gross and wicked imposters. It has already saved the people of this state much money and suffering, and will continue to do so, for this class of tramps are infesting other states where such a law, or a law regulating the practice of medicine, does not exist; and but for this law in New Hampshire our state would to-day be flooded by quacks of various shades and names.

Laws are made to protect the people from harm, coming from whatever source it may,—carrying concealed weapons, loose gunpowder, open dram-shops, gambling-houses, and others of bad fame, thefts, robberies, frauds, murders, &c.; and few, if any, complain that their personal choice or liberty is wrongfully taken from them by these laws, all admitting that the freedom to do wrong should be restricted. It has long been known by educated men that some grossly ignorant individuals, mere pretenders, have imposed upon the people in many departments, and perhaps in no one more frequently than in the prac-

tice of medicine, where, from the limited knowledge of diseases and medicines, of most people, and the general credulity or impression that men are truthful and "could not lie so" or "cheat so," it was more easy to deceive; and anybody who will take even very limited pains to inform himself may be fully satisfied of these impositions, and that such a law as was enacted in this state in 1875, and as exists in several other states, was a necessary, wise, and just law, and should be maintained upon the statute-book, if any interest or care is had for the safety and well-being of the citizens of this state.

There has been a declaration by some of these itinerants or medical tramps that their rights were interfered with, and also that the liberty of individual choice of physicians was abridged by this law, but all should remember that the conditions for admission to practise are easy and impartial; that all who are competent to practise, and entitled to the confidence of the community, may be authorized to do so; and it would seem that all reasonable persons, to whom the knowledge of such impositions should come, would earnestly desire the protection of this very law, and insist upon its maintenance and full enforcement.

Since the passage or enactment of this law by our legislature in 1875, some attempts have been made, by those who would make gains of money by the now illegal practitioners or pretenders whom they have put forward in times past, to repeal this law, but without success, and it is hoped that wise counsels and good sense will continue to prevail.

In Dover two attempts have been made to have the law enforced,—once in 1879 and again in 1883, in both instances with negative results. Both were carried before police court. In the first case, the complainant was a homœopathic physician, who furnished evidence of advertisements, &c., but not of any prescription made or actual treatment of any individual, and the judge acquitted the quack, who was said to be one of the Boston company's hired men.

In the other case, the complainant was a young mechanic who had given some attention to the study of medicine, knew of and thought favorably of the law, and that it ought to be enforced.

The allegations were that Dr. G. had practised medicine in this state contrary to law, not having obtained a license from a board of censors, and having said license recorded as required by law. The allegations were proved, and the respondent, who was allowed to testify in his own behalf, acknowledged that he had practised medicine in this state and without license, but said he "had applied to an eclectic board of censors who declined to indorse his diploma or to examine him, and further said that the reason they gave for refusing him a license was that "he advertised." It has been learned since the trial from one of the censors to whom he applied that proof was furnished the censors that Dr. G. had been guilty of practices unworthy a physician or gentleman, and that he was not entitled to the confidence of the community: hence their decision to refuse the license.

Strange to say, contrary to the opinion and expectation of many, if not all, who heard the trial, lawyers and others present expressed opinions, and many citizens not present at the trial, but who heard the facts, expressed themselves in the same way, the judge "went back of the returns," as some expressed it, went back of the complaint and evidence, and said "there was no evidence before him that the censors gave him an examination, and therefore he could not hold the respondent. We could not see why, or what right or business, the judge had to go back to the censors and question their action, any more than to question the legality or existence of the legislature which made the law. It seemed to us who heard the evidence, and knew the law and facts, that the police judge overreached his duties and pronounced upon a matter entirely outside his province. It is believed, however, that when a case is again presented, due regard will be had to the law and a different result obtained.

The fact that gross and wicked impositions can be and have been practised upon communities of this and other commonwealths shows clearly, it would seem, that a law regulating the practice of medicine was a necessity; that the law passed by our legislature in 1875 was not only necessary, but is good, wise, and impartial; that it has done much good already in freeing the people of this state from the fraudulent practices

and impositions of these itinerant, so-called doctors who have little or no responsibility, no permanent abiding-place, pay no taxes, and are far from being entitled to the public confidence.

Your censors have long known of the gross impositions practised by these boasting pretenders, believed in the propriety and necessity of the law, and since its enactment have watched its effect, noted its influence, and are fully satisfied of its salutary results.

Further, we have heard this law referred to by citizens of this and adjoining states, have heard no complaints of it except by those whose incompetency the law rejects, but approval and cheerful compliance by all whose attainments or qualifications entitle them to the confidence of the community.

REPORTS OF DISTRICT SOCIETIES.

REPORT OF STRAFFORD DISTRICT SOCIETY.

CHARLES A. FAIRBANKS, M. D., SECRETARY.

The seventy-fifth annual meeting of the Strafford District Medical Society was held at the American House, Dover, Dec. 19, 1882, Dr. S. C. Whittier, Portsmouth, president, in the chair. The following members were present:

Dover—Drs. Levi G. Hill, John R. Ham, Chas. A. Fairbanks, Chas. A. Tufts, Edward S. Berry, D. T. P. Chamberlain, T. J. W. Pray, Myer B. Sullivan, Moses C. Lathrop, Henry R. Parker, James H. Wheeler, Paul A. Stackpole.

Rochester—Dr. Isaac W. Lougee.
Great Falls—Dr. Alvah Jenkins.
Portsmouth—Drs. S. C. Whittier, John W. Parsons.
Milton—Dr. Herbert F. Pitcher.
Kittery Point, Maine—Dr. Eli Q. Adams.
Strafford—Dr. Nehemiah C. Twombly.
Greenland—Dr. Joseph W. Odell.
Barrington—Dr. William Waterhouse.
Elliot, Maine—Dr. J. L. M. Willis.

The chair appointed the following committees:

On Nominations—Dr. Moses C. Lathrop, Dover; Dr. Eli Q. Adams, Kittery Point, Me.; Dr. Geo. O. Robbins, Salmon Falls.

To Select and Assign Topics for next Annual Meeting—

Dr. John W. Parsons, Portsmouth; Drs. James H. Wheeler, Henry R. Parker, Dover.

On Necrology—Dr. Levi G. Hill, Dover; Dr. Isaac W. Lougee, Rochester; Dr. Thomas J. W. Pray, Dover.

Dr. Parsons moved the adoption of the following resolution:

WHEREAS, Certain articles have appeared in one of the newspapers of Strafford county, reflecting upon the course pursued in the treatment of a case under the care of a member of the Strafford District Medical Society; and

WHEREAS, The persons presumed to be physicians, making the criticisms in the newspapers, knew nothing of the case; therefore,

Resolved, That we characterize such criticisms as unprofessional and improper.

Passed.

Dr. John W. Parsons moved the adoption of the following resolution:

Resolved, That a committee of three be appointed by the president to revise the constitution and by-laws, and that proofs of such revision be sent to each member of the society prior to the next annual meeting.

Passed.

Dr. John R. Ham, for the council, reported favorably on the credentials of Dr. Herbert F. Pitcher, of Milton, and he was elected a member of the society.

The president appointed, as a committee on constitution and by-laws, Drs. J. R. Ham, Levi G. Hill, T. J. W. Pray.

Dr. Samuel C. Whittier, president, delivered the annual address, on "Nutrition in Disease." It was an able, instructive, and entertaining address, and at its conclusion a vote of thanks of the society was unanimously extended to the writer.

The paper was discussed by Drs. Stackpole, Hill, Adams, Lathrop.

Dr. Levi G. Hill made remarks on the use of drainage tubes in sinuses and abscesses, and the methods of their application.

Dr. Moses C. Lathrop, for the committee on nominations, reported as follows:

President—Dr. John R. Ham, Dover.

Secretary—Dr. Chas. A. Fairbanks, Dover.

Treasurer—Dr. Chas. A. Tufts, Dover.

Auditor—Dr. Levi G. Hill, Dover.

Councillors—Dr. John W. Parsons, Portsmouth; Dr. Eli Q. Adams, Kittery Point, Me.; Dr. Levi G. Hill, Dover.

Orators—Dr. Herbert F. Pitcher, Milton; Dr. J. L. M. Willis, Elliot, Me.

Dr. J. W. Parsons, for Committee to select and assign Topics for next Meeting, reported as follows:

Dr. Levi G. Hill, "The Management of Natural Labor."

Dr. I. W. Lougee, "Neuralgia."

Dr. D. T. P. Chamberlain, "Fracture of the Tibia and Fibula."

Dr. Henry R. Parker, "The Germ Theory."

The following subjects were respectfully suggested for voluntary papers: "Bright's Disease;" "The Prevention and Treatment of Mastitis;" "Nitrite of Amyl;" "Ergot."

The committee recommend that reporters limit themselves to thirty minutes in the reading of papers.

Dr. Levi G. Hill, for Committee on Necrology, reported no deaths.

Adjourned at 2 P. M. for dinner at American House dining-room.

At the afternoon session, Dr. Myer B. Sullivan read an interesting paper on "Syphilis." The paper was discussed by Drs. Ham, Adams, Parsons, and Whittier.

Dr. Sullivan reported a case of stone in female bladder, which measured an inch and a half long by three fourths of an inch through, removed by dilatation of the urethra. No incontinence of urine followed, notwithstanding the great amount of manipulation.

Dr. John W. Parsons reported a case of polypus in urethra and bladder of a female removed by dilatation, and no incontinence of urine followed.

The question whether the forceps should be used as a tractive force, irrespective of labor pains, was discussed by Drs. Hill, Adams, Parsons, Whittier, and Wheeler.

Dr. Parsons thought that every physician, in cases of labor, should examine every case and see if the *fourchette* is torn.

Adjourned.

REPORT OF THE CENTRE DISTRICT MEDICAL SOCIETY.

BY MARCELLUS H. FELT, M. D., SECRETARY.

To the President and Fellows of the New Hampshire Medical Society:

For the first time I have the honor of presenting the annual report of the Centre District Society, at the close of the seventy-sixth year of its existence. The society now has fifty members, a majority of whom usually attend the quarterly meetings holden in Concord the second Tuesday in the months of January, April, July, and October.

We desire not simply to call attention to, but would urge upon every physician who has not already done so, the importance of uniting with and attending as regularly as possible the meetings of the district societies in their respective districts. These smaller society meetings exert a wide influence, for from their social nature they tend to promote fraternal love and friendship, which has the effect to greatly reduce the amount of professional (non-professional) prejudice, antipathy, and enmity, which sometimes unfortunately exists to the discredit, or disgrace, of the profession. It is at these social meetings that the young doctor, just starting in his professional career, may learn much from the older and more experienced practitioner, while he, the elder, may perchance gain some little knowledge from the later teachings as expounded by his younger brother. It is the custom at each meeting of the Centre District Society for members to report cases of interest occurring in their practice, inviting discussion thereon, and obtaining counsel when asked for. But it is to be regretted that so little attention is given Art. II, Sec. VII, of our by-laws, adopted June 5th, 1811, viz.: "It shall be the duty of each member to promote the honor and interest of the society as far as in his power, carefully observing in his profession such occurrences as are worthy of remark, and candidly communicating the same in writing, at least once

a year, and a copy of the same shall be deposited with the secretary."

The following is a synopsis of the proceedings of the Centre District Society for the past year:

July 11, 1882. Dr. I. A. Watson read a paper on "Common law concerning nuisances," followed by a general discussion of the subject.

Dr. Frank Eaton reported several cases of "Hour-glass contractions" occurring in his practice. General discussion of the subject followed.

Oct. 10, 1882. Dissertation by Dr. J. C. Wheet, on "Copying recipes at the bedside." A general discussion followed the reading.

Dr. M. W. Russell presented report on "Obstetrical procedure in difficult cases." Dr. A. H. Crosby reported a case of Addison's disease. Dr. I. G. Anthoine reported result of post-mortem examination. Dr. John W. Merrill, Jr., of Concord, was admitted to membership. Dr. A. H. Crosby presented a preamble and resolutions protesting against the contemplated separation of the Army Medical Museum and Library at Washington, D. C., which was adopted by unanimous vote, and the secretary was instructed to forward a copy of the same to the New Hampshire delegation in congress.

Jan. 9, 1883. Annual meeting. Dr. J. H. Martin read an essay, "The mission of the physician." Dr. J. C. Wheet reported a case of convulsions in a child. Case discussed. Dr. A. H. Crosby called the attention of the society to malignant scarlet fever, and precautions necessary to prevent its spreading. At 12 o'clock, annual address by the president, Dr. Geo. Cook. Proceeded to the election of officers for the ensuing year, resulting as follows:

President—D. P. Goodhue, M. D., Springfield.
Vice-President—G. C. Blaisdell, M. D., Contoocook.
Secretary—M. H. Felt, M. D., Hillsborough Bridge.
Treasurer—C. R. Walker, M. D., Concord.

Annual banquet at Phenix hotel.

April 10, 1883. Essay, "Determination of blood in disease," by Dr. G. H. Powers. Patient presented by Dr. A. H.

Crosby: examined, and case discussed. Paper by Dr. C. F. Leslie, on "Treatment of pneumonia." A very able and interesting discussion of the question, "Is scarlatina as highly contagious as usually regarded?" occupied a large share of the time of this meeting, which closed after a general discussion of Dr. Leslie's paper. D. M. Currier, M. D., of Newport, was admitted to membership at this meeting, being the second admitted this year.

REPORTS OF DELEGATES.

REPORT OF DELEGATES TO DARTMOUTH COLLEGE.

Mr. President and Fellows:

Notice of the time for the examination and graduating exercises of the class of '82 having been received by your delegates from the Dean of Dartmouth Medical College, November 13, 1882, found them at Hanover, ready to attend to their duties, and they would now respectfully submit the following report:

On our arrival we were very cordially received by Profs. Frost, How, and Field, and soon found ourselves comfortably domiciled at the Dartmouth hotel, where we met Dr. O. W. Sherwin, delegate from Vermont Medical Society.

At three o'clock P. M. we proceeded to the Medical College, where the examination was to take place. The method of "marking," as adopted by the Faculty, was fully explained, and in our opinion is of itself sufficient proof that it is not intended that graduating from Dartmouth Medical College shall be simply a pleasant pastime, easily passed, and readily attained, but a stern reality, to be successfully met only by *hard work*, *persistent effort*, and *unquestionable proof* of fitness for the degree of Doctor of Medicine.

As a state society we may very properly congratulate ourselves, and take pride in the fact that our one college has placed her standard of success so high that all who pass her portals into professional life must be the peers of the graduates of any other college in the land. Not only has she placed her standard high, but every candidate is required to attain to that height, or fail of receiving the honors of the college.

From the class of '82 twenty-three presented themselves for

examination. Previous to our coming they had been subjected to a rigid written examination by each of the professors in his respective department, and were now admitted singly for oral examination by the delegates. Twenty passed successfully both the written and oral examinations, and were awarded diplomas. As a class they were fine looking men, and gave evidence of thorough instruction, well digested.

The exercises at the church, Tuesday evening, November 14th, were of a very interesting character—a credit to the class and the college. The valedictory was given by Hilary J. Moore, a native of Liberia, Africa, and was a finely written and well delivered farewell, creditable alike to the speaker and to the class that selected him for their valedictorian. It is worthy of note here, that Dartmouth has within a few years established this as a part of the graduating exercises of its medical classes, thus placing them on a level with the classes that graduate from the classical department.

Through the courtesy of Prof. How we visited and examined the "Stoughton Museum of Pathological Anatomy," which is really one of the finest collections in the country—rich in all that goes to illustrate the character, development, and effects of disease in its various forms. We also visited the department of therapeutics, well supplied with fine specimens of the articles of our materia medica, nicely arranged in the order of their uses and properties; and the fine collection of Dr. How, consisting of anatomical and surgical preparations, which were of extreme interest, among which were some of the most perfect preparations that can be found in any museum. All of these add much to the completeness of the means for making the lectures in the various departments practical, and gives the student an opportunity to educate the eye as well as the mind.

Hanover has peculiar advantages, which recommend it as a desirable locality for a college,—a pleasant village, surrounded by beautiful scenery in its immediate vicinity, and with more distant surroundings, by the grand old mountains and hills of New Hampshire and Vermont. The place attracts the eye, and the surroundings yield a feeling of security from the intrusions of the outer world, and awaken all the finer sentiments of the inner being.

There are none of the thousand and one dazzling attractions of the city that draw the mind of the student from his studies, but he may here give his undivided attention to the work of obtaining a thorough education. Better clinical advantages would render it more beneficial to the medical student, but, with this exception, no place offers better advantages to the honest seeker after educational privileges than Hanover, and we feel that we can safely recommend Dartmouth Medical College to all who desire a thorough, practical medical education.

In closing, we would give expression to our hearty thanks to the Faculty for their kindly courtesy to us during our stay, and for their unwearied efforts in our behalf, making, as they did, our visit to old Dartmouth one of the "red letter days" of our lives.

Yours respectfully,

D. W. JONES,
J. R. KIMBALL,
Delegates.

REPORT OF DELEGATE TO MAINE.

BY J. W. PARSONS, M. D., PORTSMOUTH.

The Maine Medical Association held its thirty-first annual session at Portland, on June 12th, 13th, and 14th, at which meeting I had the pleasure of being present as your delegate. I was courteously received, introduced to the association, and invited to participate in its discussions.

Although in numbers the society did not meet my expectations, yet what was lacking in quantity was well supplied in quality. It was noticeable here, as at most medical meetings, that a few take the lead with the papers, make the discussions, and do the work.

The president's address was brief, being retrospective as well as prospective, and suggestive in its scope. He strongly recommended some action in relation to a state board of health

and medical registration law, for which committees were appointed.

Many practical papers were read, and discussed in an able manner.

Discussion immediately followed each paper—a method which should be adopted in our own society.

The following subjects were treated in the several papers: Synovitis, acute inflammation of the middle ear, extra uterine pregnancy, fractures at the elbow joint, diseases of the mastoid, induction of premature labor, Bright's disease, rational medicine and quackery, and treatment of accidents occurring at parturition.

The writer of the paper on induction of premature labor took strong position based on experience in its favor, when any indication existed for the operation. He believed it to be a safe and justifiable means, in the two latter months of pregnancy, to prevent tedious or dangerous labor where there is pelvic deformity or other unnatural conditions. His method is digital dilatation of the os, and his results were good for mother and child. In this connection your reporter calls to mind an item in one of the medical journals, which stated that a professor of obstetrics in Philadelphia told his class that he "believed the time would come when fashionable women would have their children at any time that suited their convenience during the last four weeks of pregnancy." Without prolonging this report to an unusual extent, I cannot give you a satisfactory abstract of the various papers and remarks, and it must suffice when I say that that part of the proceedings at which your delegate was able to be present was replete with interest and instruction.

Dr. O. A. Horr, of Lewiston, was elected president.

Dr. T. A. Foster, of Portland, and Dr. D. L. Lamson, of Fryeburg, were chosen delegates to the New Hampshire Society.

NECROLOGY.

OBITUARY NOTICE

OF

SILAS CUMMINGS, M. D.

BY M. T. STONE, M. D., TROY, N. H.

Among the fellows of this society who during the past year have been called to pass the "dark river," was Dr. Silas Cummings, a native and for fifty-five years a practising physician of Fitzwilliam.

Dr. Cummings was born October 7, 1803. His early years were spent upon his father's farm, and in attendance at the common schools where he received his education. He commenced the study of medicine under his "friend and master," as he called him, Dr. Wright, of Fitzwilliam, and graduated from Dartmouth Medical College in 1827. He immediately entered upon the active practice of his profession in his native town, where he labored for fifty-five years.

In his professional duties he visited the third and fourth generations, and in some instances even the fifth. It is very rare for a man to retain the confidence of the people, and to have health to perform those duties, for so long a period. It may be said of him that he "died in harness," for he was actively engaged in visiting the sick almost to the last hour of his life, which occurred June 30, 1882.

A few days before his death, while leaving the house of a patient, he slipped and fell from the steps, striking upon the head, making quite a wound in the scalp. He rode home, and with the assistance of his son-in-law and grandson dressed the wound, and for two or three days after attended to his duties as usual. The night before his death he vomited once or twice,

but in the morning arose as usual and prepared his medicines for patients. Soon after this he remarked that he did not feel as well as usual, and sent his wife with the medicine, and a message to the patients that he would call and see them in the afternoon; and soon after she left he quietly breathed his last.

Dr. Cummings was a good physician, carefulness and faithfulness being qualities for which he was valued. He was never boasting of brilliant acts or lamenting over disasters, but performed his duties in a deliberate, thoughtful, and quiet manner, and was very succ[illegible] As a citizen Dr. Cummings was popul[illegible] and avoided doing or saying anything that might wound t[illegible] feelings of another. He was a man of few words, very ca[illegible]ious in giving opinions. He was an earnest student, alway[illegible] reading when riding; and in later years, when accompanied b[illegible]y a companio[illegible] he would have him read to him. In this manner he w[illegible] enabled to keep abreast with the times, and to keep c[illegible]nstantly informed of the advancement made in the different departments of medicine, and made practical use of them when occasion required. He was always ready to take up the remedies recommended by the profession. No better proof or higher praise could be awarded him (also showing his interest in his profession), than the answer given by a wholesale druggist [illegible] Boston to a merchant in Fitzwilliam when ordering a medicine: "On our books we have accounts with hundreds of physicians and druggists, and Dr. Cummings has bought of us for more than thirty years, and he is the first one to call for all these new remedies." He did not live on his reputation earned years ago, but kept read up in his old age equal to any physician we know.

He was for a long time on the [illegible]
school committee, and throughout [illegible]
great interes[illegible]n the schools, a[illegible]
made arran[illegible]ements wi[illegible]
aminations [illegible]

He resp[illegible]d [illegible] of any church. In pc[illegible] as a[illegible] [illegible]at, firm in his convictions, bu[illegible] of a partis[illegible]n nat[illegible]e: in fact, he was quite liberal in his [illegible]iews, as he was elected to fill various offices. Although his party was in a minority of two to one, he was

many times chosen moderator, and in 1874 elected representative by a flattering vote. He was well versed in the mystic rites of Free Masonry, and was buried with Masonic honors by Monadnock Lodge of Troy, of which he was a member. He was always to the front in all public enterprises, with a willing hand and earnest voice advocating them, and leading and moulding public opinion in their favor. At the time of his death he was actively engaged in preparing a history of his native town.

His funeral, which took place at the town hall, was the largest gathering ever called together in Fitzwilliam. It is said of him that he was always as ready to visit a poor man's hut as a rich man's mansion, carrying the same conscientious care to one as to the other.

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OBITUARY NOTICE

OF

CARL AUGUST VOLK, M. D.

BY ALVAH R. CUMMINGS, M. D., OF CLAREMONT.

Carl A. Volk, M. D., was born at Homberg, near Frankfort-on-the-Main, Germany, on the 18th of June, 1812. He died in Claremont, March 5, 1883, aged 70 years, 8 months, and 17 days.

Dr. Volk married, Dec. 25, 1849, Miss Emily Henry, of Claremont, daughter of Frederick and Adeline Henry. From this union six children were born to them.

At the age of 12 he entered the university of Heidelberg, where he remained seven years, pursuing the studies of dentistry and medicine. He came to America in 1831, landing in New York city with fifty cents in his pocket, and unable to speak a word in English. After wandering some time about the city he found employment with a furrier, where he obtained the art of coloring furs. After a short time he associated himself with a man engaged in the art of coloring gold, which was at that time kept a secret, but, with his knowledge of chemistry, he soon became an expert in the business. His employer was glad to pay him $500 not to divulge the secret nor open competition. Having in the meantime obtained a practical knowledge of the English language, he repaired to Ohio, where he opened an office and practised medicine. He remained but a short time West, when he went to Williston, Vt., where he remained engaged in his profession until the year 1844, when he settled in Claremont, and engaged in a lucrative practice.

Dr. Volk applied to Dartmouth Medical College for a diploma in 1859, and insisted upon examination. The faculty granted his request Nov. 9, 1859. He wrote his thesis in Latin. Prof.

Albert Smith, one of the faculty of the college at that time, wrote to a friend of Dr. Volk's as follows: "We then determined to examine him as we did other students, and if he passed the ordeal to give him a degree. He did pass it well, so much so that it was remarked that no student excelled him in the examination." Prof. Smith said "Dr. Volk went through the anatomy of the brain like a student who studied yesterday." He continued to practise his profession in Claremont, doing an amount of hard work that rarely falls to the lot of a physician.

Dr. Volk's fame was not limited to his adopted state, but he had patients beyond his own town and state. He enjoyed uninterrupted health until within a year of his decease. His main trouble was dyspnœa. He was confined only two days to his bed. Bright's disease was the cause of his death. He left a wife and six children to mourn for him. He was a kind and faithful husband and indulgent father.

At a meeting of the Claremont Medical Association, March 8, 1883 (Dr. Volk being the senior member), the following preamble and resolutions were adopted:

WHEREAS, God in his providence has removed from our midst Carl A. Volk, M. D., the senior physician of this town, we express our deep sense of sorrow. For more than forty years he has been a successful physician and a benefactor to humanity. Labor to him was a pleasure, and to do good, especially to the poor, was his highest pleasure; therefore be it

Resolved, That by this afflictive event the profession is bereft of one about whom its love and pride especially centred, and the community of a safe adviser, and an esteemed and worthy citizen.

Resolved, That we sincerely sympathize with the family of the deceased.

Resolved, That a copy of these resolutions be communicated to the family of the deceased and entered on our records; also a copy of the same be presented by our secretary to the local papers for publication.

A. R. CUMMINGS,
C. E. BAKER,
L. J. GRAVES,
Committee on Resolutions.

JAMES P. HOLT, *Secretary.*

OBITUARY NOTICE

OF

DR. JOHN W. BARNEY.

BY G. P. CONN, M. D.

Dr. John W. Barney died of paralysis at his rooms on North Main street, this city, on the morning of March 4, at the age of 67 years, 1 month, and 15 days. He was born in St. Johnsbury, Vt., Jan. 19, 1816, and graduated at the Caledonia grammar school. He then read medicine, and graduated at the Vermont Medical College at Woodstock in 1841, and this college being discontinued about 1860, he received an addendum degree from Dartmouth in 1873. He first located in the practice of his profession at Derby, Vt., but soon went to Lancaster, this state, where he remained in active practice until 1870, when he located in this city. For a few years after locating here he was in active practice, as he had been in Lancaster; but for the past six years his health has been feeble and he was obliged to give up all active work, and has spent a considerable portion of his time during the summer months at Kittery Point, Me. During a portion of his active practice in this city he was associated with Dr. Crosby in the care of the state prison, and was very active in laboring to secure for the state a new prison, as he fully believed that hygienic and sanitary science had made such progress that it was neither creditable to the state nor humane to those being punished to keep them confined in such quarters as the old prison afforded. He was one of the commissioners appointed to select a site for the new buildings, and performed the work assigned to him in such a manner as to

show that his mind was clear and decided upon what was necessary to secure a healthful location. He was for a time a member of the White Mountain Medical Society, of which he was at one time president, and he became a member of the N. H. State Medical Society in 1870. He was a member of the state senate from Coös county in 1868 and 1869. He had for many years been an active Mason, and was a member of the North Star Encampment of Lancaster.

During Dr. Barney's long residence in Lancaster he enjoyed a very large and successful practice, and was the chosen counsellor for all the neighboring towns. His departure from Coös county was universally regretted, and did not prove entirely satisfactory to himself, for he virtually retired from active practice while in the prime of life. At Lancaster he was the trusted friend and physician of a very large community, while, in Concord, he took his chance with a large number of physicians, many of them young and ambitious. When he was called, however, he gave the highest satisfaction to patient and family, both for his undoubted skill, and for the kind and sympathetic nature which made the sufferer's case his own.

The last few years of his life he suffered so much from partial paralysis that he was unable to perform any professional work, but he was cheerful and patient to the last, and when the summons came, fell asleep as quietly as a child in its mother's arms. We may truly say of him, "Another good man gone;—may he rest in peace."

OBITUARY NOTICE

OF

JOHN CARROLL MARSHALL, M. D.

BY JAMES AUSTIN DAVIS, M. D.

Dr. John Carroll Marshall, whose untimely death we mourn to-day, was born in Weare, N. H., in 1845, being thirty-seven years old at the time of his decease. Losing his father in early life, he found a home with an uncle, but was thrown mainly upon his own resources for his education, which he resolutely pursued under many discouraging circumstances, teaching or working on a farm to provide himself means to carry on his studies. His preparatory education he received at the academies in Francestown, and in Brunswick, Maine, after which he began the study of medicine with Dr. A. R. Dearborn, of Weare, and continued it at Dartmouth Medical School, where he received his diploma in November, 1871. In the following spring he began the practice of his profession in Lyme, where he acquired a large and increasing business, and became very popular not only as a physician, but as a man. He held the office of superintending school committee for a term of years, and was respected by all who knew him, as the crowds testified who followed him to the grave, to drop there the silent tear in memory of one whose good deeds live after him. He entered the homes of the rich and poor alike, not for the dollar which increases man's substance, but for the sake of alleviating suffering, and often with no other compensation than the satisfaction of doing good. His generosity to the poor, and his liberal contributions in support of the gospel, are known to all. Any one

in trouble or in need was sure to find a friend in Dr. Marshall. He was married in 1879 to Kate G. Perkins, who survives him to mourn his loss.

As we gather here to-day to recall the memory of our brother and our friend, cut down in the midst of his days, our first impulse would be to keep silence while God speaks; but, *no*, rather let us learn the lesson He would teach us by this providence, that in the midst of life we are in death, and let us close our ranks and go forward till we are called to enter the unknown land.

LIST OF THE FELLOWS

OF THE

NEW HAMPSHIRE MEDICAL SOCIETY.

N. B. The secretary requests members to examine this list closely, and notify him of any corrections to be made, as it is intended to publish the roll of members annually, and it is desirable to make it as accurate as possible. An asterisk (*) indicates a Retired Member.

Abbott, A. W.,	Laconia.
Abbott, Edward,	Sanbornton.
Abbott, O. D.,	Manchester.
Adams, D. S.,	Manchester.
Adams, Ira H.,	Derry Depot.
Allen, Carl A.,	Acworth.
Anthoine, I. G.,	Antrim.
Atkinson, W. P.,	Eaton.
Bancroft, Chas. P.,	Concord.
Bancroft, J. P.,	Concord.
Banfield, F. L.,	Wolfeborough.
*Bassett, Thomas,	Kingston.
Benner, R. B.,	Concord.
Berry, Ed. S.,	Dover.
Blaisdell, Frank,	Goffstown,
Blaisdell, Geo. C.,	Contoocook.
*Bonney, C. F.,	Manchester.
Boutwell, Henry T.,	Manchester.
Boutwell, Henry W.,	Manchester.
Brown, J. F.,	Chester.
Brown, J. P.,	Taunton, Mass.
Bridgeman, Geo. H.,	Keene.
Brooks, N. G.,	Charlestown.
*Burnham, A. C.,	Hillsborough Bridge.

Burnham, H. B., ... Epping.
Buswell, Albert C., ... Epping.
Butler, Jacob N., ... Lempster.

Carbee, S. P., ... Haverhill.
Calley, Geo. H., ... Bristol.
Carr, A. F., ... Goffstown.
Carr, E. L., ... Pittsfield.
Carter, W. G., ... Concord.
*Carleton, C. A., ... Salem, Mass.
Carville, H. De W., ... Manchester.
Cilley, O. G., ... Boston, Mass.
Chase, W. D., ... Peterborough.
Chamberlain, D. T. P., ... Dover.
Clark, D. S., ... Derry.
Cogswell, J. R., ... Warner.
Conn, G. P., ... Concord.
Cook, Geo., ... Concord.
Crosby, A. H., ... Concord.
Crosby, G. A., ... Manchester.
Crittenden, R. A., ... Haverhill, Mass.,
Cummings, A. R., ... Claremont.
* Currie, T. H., ... Lebanon.
Currier, E. H., ... Manchester.
Currier, D. M., ... Newport.
Cutler, Geo. I., ... West Swanzey.
Cutler, John H., ... Peterborough.

Danforth, M. S., ... Manchester.
Davis, Jas. A., ... Lebanon.
Davis, S. W., ... Winchester, Mass.
Dearborn, D. S., ... Milford.
Dearborn, S. G., ... Nashua.
Dinsmoor, S. M., ... Keene.
Dinsmore, W. H., ... Milford.
Dix, M. C., ... Hinsdale.
Dodge, C. M., ... Manchester.
* Downs, Chas. S., ... Nottingham.
Drake, C. B., ... West Lebanon.

* Eastman, J. C., ... Hampstead.
Eastman, O. D., ... Piermont.
Eaton, Frank, ... East Weare.
Emerson, Arthur L., ... Chester.

Emery, Alfred E.,	Penacook.
Evans, Earl,	Winchester.
Fairbanks, Chas. A.,	Dover.
Felt, M. H.,	Hillsborough Bridge.
*Fenner, A. G.,	Dover.
Fisher, E. C.	Sutton.
Fisher, F. P.,	Enfield Centre.
Flanders, Chas. F.,	Manchester.
Fowler, E. O.,	Danvers, Mass.
Fowler, H. B.,	Bristol.
French, Henry M.,	Concord.
*French, Leonard,	Manchester.
French, L. M.,	Manchester.
French, John M.,	Simsbury, Conn.
Frost, C. P.,	Hanover.
Frye, Edward B.,	Plaistow.
*Gage, Chas. P.,	Concord.
Garey, A. R.,	Laconia.
George, Geo. F.,	Goffstown.
Gibson, Chas. R.,	Woodsville.
Gibbs, L. J.,	Chicopee Falls, Mass.
Gleason, A. R.,	Fitzwilliam.
Gould, True M.,	Raymond.
Goodhue, D. P.,	Springfield.
Goss, Oliver,	Lake Village.
Gove, Geo. S.,	Whitefield.
Grant, L. E.,	Candia.
Graves, E. E.,	Boscawen.
*Graves, F. W.,	Woburn, Mass.
Graves, L. J.,	Claremont.
Greeley, Geo. P.,	Nashua.
*Hall, J. F.,	Portsmouth.
Ham, J. R.,	Dover.
Hammond, C. B.,	Nashua.
Hale, E. P.,	Danvers, Mass.
Hargreave, M. E.,	Manchester.
Harriman, C. H.,	Whitinsville, Mass.
Hanson, C. W.,	Northwood Ridge.
Hatch, G. W.,	East Wilton.
Hawley, G. H.,	Barnstead Centre.
Hill, L. G.,	Dover.

Hoitt, Geo. C.,	Manchester.
Holbrook, Guy,	Colebrook.
How, L. B.,	Manchester.
Howard, G. C.,	Lawrence.
Hunt, Geo. W.,	Cornish Flat.
Hutchinson, H. S.,	Francestown.
Jackson, Jos. A.,	Manchester.
* Jarvis, S. G.,	Claremont.
Jones, D. W.,	Portsmouth.
Jones, F. P.,	Goshen.
Judkins, F. L.,	Moultonborough.
Kelley, C. K.,	Plymouth.
Kimball, J. R.,	Suncook.
Kingsbury, C. F.,	Lyme.
Knight, L. M.,	Franklin.
Lanouette, Jos. E. A.,	Manchester.
Larabee, G. H.,	Suncook.
Lathrop, M. C.,	Dover.
Leslie, C. F.,	Windsor, Vt.
Locke, Daniel L.,	Epsom.
* Lougee, I. W.,	Rochester.
Manahan, Val.,	Enfield.
Manchester, C. W.,	Lebanon.
Mason, G. L.,	Meredith.
Mason, J. E.,	Manchester.
* Mason, W. H. H.,	Moultonborough.
McQuesten, E. F.,	Nashua.
Merrill, J. W.,	West Somerville, Mass.
Mitchell, Ezra, Jr.,	Lancaster.
Morse, Chas. A.,	Newmarket.
Moffett, Frank T.,	Littleton.
Moody, Wm. B.,	Franconia.
Mooar, J. W.,	Manchester.
Morrill, S. C.,	Concord.
Munsey, G. F.,	Greenville.
Myshrall, D. B.,	Natick, Mass.
Nelson, D. B.,	Laconia.
Nichols, C. B.,	Franklin Falls.
Nute, W. H.,	North Barnstead.
O'Brien, C. C.,	Groveton.
Odell, J. W.,	Greenland.

Odlin, C. C., ... Melrose, Mass.
Otis, E. O., ... Exeter.

Palmer, Haven, ... Plymouth.
*Parker, David T., ... Farmington.
Parsons, John W., ... Portsmouth.
Pattee, Luther, ... Manchester.
Patten, J. L., ... Whitefield.
Pearsons, E. O., ... Concord.
*Peabody, L. W., ... Henniker.
Perkins, F. B., ... Grantham.
*Phillips, B. H., ... Suncook.
*Pike, C. C., ... Peabody, Mass.
Pitcher, H. F., ... Milton.
Porter, W. B., ... Walpole.
Powers, G. H., ... Hopkinton.
Pray, J. W., ... East Northwood.
Pray, T. J. W., ... Dover.
Presby, Jas. M., ... Salem.
Preston, J. W., ... Bristol.
Prouty, Ira J., ... Keene.

Quimby, Chas. E., ... Flushing, N. Y.

Rand, Wm. H., ... New Hampton.
Reynolds, T. O., ... Kingston.
Richards, M., ... Manchester.
Rix, Jas. M., ... Warner.
Richardson, A. P., ... Walpole.
Roberts, S. W., ... Wakefield.
*Robinson, A. H., ... Concord.
Robinson, J. L., ... Manchester.
Robins, G. O., ... Salmon Falls.
*Rogers, A., ... Hopkinton.
Russell, Julia Wallace, ... Concord.
Russell, M. W., ... Concord.

Sanborn, G. H., ... Henniker.
*Sanborn, J. A., ... Plymouth.
Sanborn, J. H., ... Franklin Falls.
Sanborn, T. B., ... Newport.
Shedd, G. H., ... Fryeburg, Me.
Sleeper, W. J., ... Manchester.
Smith, C. E., ... Manchester.

* Smith, J. Ranlet,	Gloucester, Mass.
Smith, W. A.,	Campton Village.
Smith, W. T.,	Hanover.
Scruton, J. E.,	Union.
Stackpole, P. A.,	Dover.
Staples, J. W.,	Franklin Falls.
Stillings, F. A.,	Concord.
Stone, M. T.,	Troy.
Sturgis, Jas. G.,	Manchester.
Sturtevant, C. B.,	Manchester.
* Swett, J. L.,	Newport.
Tolles, C. W.,	Claremont.
Towne, G. D.,	Manchester.
Towle, G. H.,	Deerfield.
Tucker, E. M.,	Canaan.
Tufts, C. A.,	Dover.
Twitchell, G. B.,	Keene.
Wade, E. A.,	Salem Depot.
Walker, C. R.,	Concord.
Wason, Eugene,	Londonderry.
Watson, H. A.,	Henniker.
Watson, I. A.,	Concord.
Waterhouse, Wm.,	Barrington.
Weaver, C. A.,	New Boston.
Weymouth, G. W.,	Danbury.
Weymouth, H. A.,	Andover.
Webster, W. A.,	Manchester.
Welch, S. N.,	Sutton.
Wheat, Thomas,	Manchester.
Wheet, John C.,	Groton.
Wheeler, J. H.,	Dover.
Wheeler, John,	Pittsfield.
* Whitmore, John,	Wentworth.
* Whipple, S. M.,	New London.
Whittier, S. C.,	Portsmouth.
* Wight, Nahum,	Gilmanton.
Wilson, J. W.,	Contoocook.
Woodward, J. N.,	Nashua.
Young, Leander J.,	Candia.
Young, Stephen,	East Rochester.

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TRANSACTIONS

OF THE

N. H. MEDICAL SOCIETY

AT ITS

Ninety-Fourth Annual Session,

HELD AT

CONCORD, JUNE 17 AND 18, 1884.

MANCHESTER:
PRINTED FOR THE SOCIETY, BY JOHN B. CLARKE.
1884.

PROCEEDINGS

OF THE

NEW HAMPSHIRE MEDICAL SOCIETY.

MORNING SESSION.

TUESDAY, June 17, 1884.

The ninety-fourth annual meeting of the New Hampshire Medical Society convened in White's Opera House, in the city of Concord, Tuesday, June 17, 1884, and was called to order at eleven o'clock, by the president, Dr. John W. Parsons of Portsmouth.

Prayer was offered by the chaplain, Rev. E. R. Wilkins of Concord.

Dr. W. G. Carter, chairman of the committee of arrangements, announced that the anniversary dinner would be served at the Eagle hotel at 1.30 P. M., and that tickets could be had of the committee in the hall. He also read an invitation from Dr. Bancroft, Superintendent of the Asylum for the Insane, for members to visit the asylum at their convenience during their stay in the city, and an invitation to the Society to a reception at the house of Dr. Conn, from 8.30 to 11 o'clock Tuesday evening. Both invitations were accepted.

The following special committees were appointed by the president:

Committee on Reception of Delegates — Drs. I. A. Watson of Concord, M. C. Lathrop of Dover, and S. P. Carbee of Haverhill.

Committee to Audit Treasurer's Account — Drs. M. W. Russell of Concord, and L. G. Hill of Dover.

Committee to Examine and Report on Patients — Drs. S. M. Dinsmoor of Keene, D. W. Jones of Portsmouth, A. H. Crosby of Concord, G. L. Mason of Laconia, G. D. Towne of Manchester.

On motion,

Voted, To dispense with the reading of the records of the last meeting, as the same had been published and distributed among the members.

The following delegates from other state societies were introduced to the president and society by Dr. Watson of the committee, and they were invited to participate in the proceedings of the meeting:

Delegates from Massachusetts— Dr. G. M. Morse of Clinton, and Dr. G. W. Snow of Newburyport.

Delegate from Maine — Dr. J. L. M. Willis of Elliot.

Delegate from Vermont — Dr. E. S. Albee, Bellows Falls.

The society being fully organized, the Report of the Council was read by the secretary.

CONCORD, Monday evening, June 16, 1884.

The council met at the office of the secretary at 8.30 o'clock P. M., and was called to order by the president, Dr. Parsons of Portsmouth.

The roll of the council was called by the secretary, and the following answered to their names:

Drs. M. H. Felt of Hillsborough Bridge, G. C. Blaisdell of Contoocook, C. R. Walker of Concord, C. B. Hammond of Nashua, G. D. Towne of Manchester, G. A. Crosby of Manchester, D. W. Jones of Portsmouth, M. C. Lathrop of Dover, S. P. Carbee of Haverhill, S. M. Dinsmoor of Keene, A. P. Richardson of Walpole, D. B. Nelson of Laconia, J. H. Sanborn of Franklin Falls, C. A. Morse of Newmarket.

Substitutes for the remaining members of the council were voted as follows:

Dr. A. H. Crosby of Concord, for Dr. Ezra Mitchell of Lancaster; Dr. C. P. Gage of Concord, for Dr. C. R. Gibson of Woodsville; Dr. D. P. Goodhue of Springfield, for Dr. T. B.

Sanborn of Newport; Dr. Geo. Cook of Concord, for Dr. W. T. Smith of Hanover; Dr. H. M. French of Concord, for Dr. J. W. Pray of East Northwood; and Dr. F. A. Stillings of Concord, for Dr. C. W. Manchester of Lebanon.

The president, vice-president, treasurer and secretary were also present.

The organization being complete, with the president in the chair, the following applications for membership were submitted to the council, and after due examination and being found worthy, it was voted to recommend them for membership:

Dr. A. P. CHESLEY, Concord.
Dr. S. D. MARDEN, Concord.
Dr. H. C. CUMMINGS, Concord.
Dr. ROBERT BURNS, Plymouth.
Dr. JAMES B. PETTINGILL, Amherst.
Dr. FRANCIS D. RANDALL, Hooksett.
Dr. LEONARD JARVIS, Claremont.
Dr. N. W. BEAN, Chichester.
Dr. C. A. SANBORN, Newport.
Dr. LEVI CLARK, Loudon Ridge.
Dr. FRANK J. AIKEN, Pittsfield.
Dr. GEORGE E. LEET, Canaan Street.
Dr. WILLIAM O. JUNKINS, Greenland.

The request of Dr. William Child of New Hampton, to be reïnstated, was considered, and it was

Voted, To reïnstate Dr. Child.

The request of Dr. J. W. Wilson of Contoocook, and Dr. Thomas Wheat of Manchester, to be placed upon the retired list, was duly considered, and it appearing that they were over sixty years of age, and that all dues had been paid, it was

Voted, That the request of Drs. Wilson and Wheat be granted.

Dr. Cook, from the Board of Censors, read the following report, which was accepted and ordered published:

REPORT OF THE CENSORS.

The following licenses have been granted during the year : —

Date of License.	Name.	Residence.	Place of graduation.	Date of graduation.	By Dr.
1883.					
June 20.	Edwin C. Fisher..	Sutton	Dartmouth	1882	Hill
June 28.	C. M. Sleeper.....	Rochester....	Bowdoin	1883	Cook
June 29.	D. Lincoln Locke.	Epsom	University of Vermont. .	1882	Cook
July 3.	Edw'd A. Judson..	Dover.....	New York.....	....	Hill
July 7.	Jno. Young.....	Rochester....	New York.....	1882	Hill
July 9.	W. D. Otterson...	Bennington...	Harvard.....	1882	Cook
July 18.	Frank O. Manning	Concord	L. I. College Hospital....	1883	Cook
Aug. 1.	Andros P. Chesley	Concord.....	L. I. College Hospital ...	1883	Cook
Aug. 2.	J. B. Treadwell...	Boston.....	Harvard.....	....	Cook
Aug. 7.	Elgin W. Jones...	Meredith.....	University of New York..	1883	Adams
Aug. 9.	Geo. A. Underhill.	Nashua	University of New York..	1883	Cook
Aug. 20	Geo. W. Bourne..	Manchester..	Jefferson Medical College.	1882	Cook
Aug. 26.	W. N. Morse.....	Ossipee	University of Vermont....	1883	Adams
Sept. 1.	Paul F. Munde....	Hanover.....	Harvard	1866	Cook
Sept. 15.	E. B. Gleason....	McIndoes, Vt.	University of Penn.....	1878	Cook
Oct. 26.	F. D. Randall....	Hooksett.....	University of Vermont....	1882	Cook
Nov. 19.	Jas. B. Pettingill..	Amherst.....	University of Vermont....	1883	Adams
Nov. 19.	Geo. B. Emerson..	Wentworth...	Dartmouth	1883	Cook
Dec. 3.	John B. Raynes...	Bradford.. ...	Dartmouth	1882	Cook
Dec. 4.	Geo. W. Nutter...	Manchester...	Dartmouth	1883	Cook
Dec. 4.	Sumner D. Marden	Concord	Dartmouth	1883	Cook
Dec. 13.	Geo. A. Blodget..	Groton.....	Dartmouth	1883	Cook
1884.					
Jan. 1.	O. M. Brown.....	Bartlett	University of Vermont....	1883	Cook
Jan. 28.	James H. Stuart..	Manchester...	University of New York..	1880	Adams
Jan. 31.	James A. Leet.....	Claremont	Dartmouth	1883	Adams
Mar. 17.	H. C. Cummings..	Concord..	University of New York..	1883	Cook
Apr. 12.	Geo. E. Allen.....	Auburn	Bowdoin	1883	Adams
Apr. 24.	Leonard Jarvis...	Claremont....	Harvard.....	1882	Adams
May 6.	Louis A. Genereux	Claremont....	University of Laval, Ca...	1880	Adams
May 15.	Ira J. Prouty.....	Keene.....	University of New York.	1882	Cook
May 29.	F. X. R. Lafliche.	Manchester...	University of Victoria, Ca.	1879	Adams
June 4.	Chas. A. Stark	Manchester...	Dartmouth.....	1883	Adams
June 7.	Edwin O. Pearson.	Manchester...	Dartmouth	1878	Adams

Respectfully submitted,

GEORGE COOK,
Secretary of Board of Censors.

CONCORD, N. H., June 15, 1884.

The committee to whom special questions of ethics were referred, at the last annual meeting of the society, made their reports, which were accepted and ordered to be placed on file for future reference.

It appearing from the records of the society that the number of Fellows of the association had reached the full number designed by the amendment of 1816, it was

Voted, That the officers of the society be a committee to memorialize the legislature to abolish the limitation of members, or increase the number to five hundred Fellows.

The report was accepted, and it being ascertained that the above names of new members were present and prepared to sign the by-laws and the constitution, it was

Voted, That the secretary cast the list of names reported by the council, as the ballot of the society.

This having been done, the new members came forward and completed their registration.

Other names that were recommended by the council for membership not being present, it was

Voted, That that part of the report of the council referring to them should lie upon the table until the next meeting of the council.

On motion of Dr. Stillings, the following resolution passed:

Resolved, That the Committee of Arrangements invite the delegates from other states, our chaplain, and reporters, to our anniversary dinner, and that the treasurer provide for the same from the funds of the society.

At 12 o'clock the vice-president, Dr. John Wheeler, took the chair, and president Dr. John W. Parsons, of Portsmouth, delivered the annual address. It was well received, was an interesting paper, and was referred to a committee consisting of Drs. I. A. Watson of Concord, S. C. Whittier of Portsmouth, and G. A. Crosby of Manchester, to consider the recommendations therein contained. Subsequently the committee reported that the time was so limited that it was not practicable to then consider the president's address, and asked leave to consider and report to the Committee on Publication.

Voted, To grant their request.

Dr. Charles P. Bancroft, of Concord, read an essay on "An Inquiry into the Causes of Insanity, with Especial Reference to Prevention and Treatment." This was discussed by Dr. Roberts of Wakefield and Prof. Frost of Hanover, and was referred to the Committee on Publication.

The next paper was an oration by Dr. I. G. Anthoine of Antrim, which was discussed, and, on motion of Dr. Hill of Dover, was accepted and referred to the Committee on Publication.

The society then adjourned to the Eagle hotel for dinner. After dinner was served, the anniversary chairman, Dr. A. P. Richardson of Walpole, called the members to order, and *post*

prandial speeches were made by the president, Dr. John W. Parsons, Hon. J. W. Patterson, Hon. F. W. Hackett, Dr. J. P. Bancroft, Prof. C. P. Frost, and others.

AFTERNOON SESSION.

Called to order at 3.30 o'clock by the president, when Dr. M. C. Lathrop of Dover read a dissertation, "The Mother's Mark Delusion," Dr. C. R. Walker, of Concord, an oration on "Surgical Cleanliness," and Dr. E. O. Otis of Exeter, a report on Surgery, all of which were referred to the Committee on Publication.

Adjourned until 7.30 P. M.

EVENING SESSION.

Met according to adjournment with the president in the chair, when Dr. S. M. Dinsmoor of Keene read a report on "Diseases of the Eyes"; Dr. E. S. Berry of Dover, a paper on "Respiratory Irrigation in the treatment of Empyema," and Dr. M. S. Danforth of Manchester, a report on "Obstetrics"; all of which were referred to the Committee on Publication.

An essay on the "Treatment of Phthisis," by Dr. S. C. Morrill, of Concord was, at his request, read by its title and referred.

MORNING SESSION.

WEDNESDAY, June 18, 1884.

The Society met according to adjournment, with the president in the chair.

The reading of papers being in order, the report on Gynecology, by Dr. Ezra Mitchell, was listened to with much interest, and after being discussed by Dr. Whittier of Portsmouth, was accepted and referred.

The report on Necrology was made by Dr. E. E. Graves of Boscawen, and referred to the Committee on Publication.

At 9 o'clock the following officers were elected.

PRESIDENT.

DR. JOHN WHEELER, of Pittsfield.

VICE-PRESIDENT.

DR. GEORGE A. CROSBY, of Manchester.

TREASURER.

DR. D. S. ADAMS, of Manchester.

SECRETARY.

DR. GRANVILLE P. CONN, of Concord.

EXECUTIVE COMMITTEE.

DR. C. R. WALKER, of Concord.
DR. G. D. TOWNE, of Manchester.
DR. JOHN R. KIMBALL, of Suncook.

The Executive Committee reported the following members to constitute the Council and Board of Censors, also delegates to state societies, which was unanimously adopted.

COUNCIL.

DR. M. H. FELT, Hillsborough Bridge.
DR. G. H. SANBORN, Henniker.
DR. C. A. SANBORN, Newport.
DR. C. B. HAMMOND, Nashua.
DR. G. H. BRIDGEMAN, Keene.
DR. W. B. PORTER, Walpole.
DR. M. C. LATHROP, Dover.
DR. D. W. JONES, Portsmouth.
DR. G. A. CROSBY. Manchester.
DR. L. M. FRENCH, Manchester.
DR. H. M. FRENCH, Concord.
DR. J. W. PRAY, East Northwood.
DR. C. B. NICHOLS, Franklin Falls.
DR. F. L. JUDKINS, Moultonborough.
DR. O. D. EASTMAN, Piermont.
DR. C. A. WEAVER, New Boston.
DR. J. N. WOODWARD, Nashua.
DR. STEPHEN YOUNG, East Rochester.
DR. D. B. NELSON, Laconia.
DR. F. T. MOFFETT, Littleton.

CENSORS.

DR. D. S. ADAMS, Manchester.
DR. GEORGE COOK, Concord.
DR. L. G. HILL, Dover.
DR. S. C. WHITTIER, Portsmouth.
DR. J. C. EASTMAN, Hampstead.
DR. C. B. HAMMOND, Nashua.
DR. G. D. TOWNE, Manchester.
DR. I. J. PROUTY, Keene.
DR. LEONARD JARVIS, Claremont.
DR. C. B. DRAKE, West Lebanon.

DELEGATES TO OTHER STATE SOCIETIES.

Maine—Dr. M. C. Lathrop, Dover, Dr. E. B. Frye, Plaistow.

Vermont—Dr. G. H. Bridgeman, Keene, Dr. Leonard Jarvis, Claremont.

Massachusetts—Dr. C. R. Walker, Concord, Dr. D. W. Jones, Portsmouth.

Rhode Island—Dr. C. B. Hammond, Nashua, Dr. C. F. Munsey, Greenville.

Connecticut—Dr. J. F. Brown, Manchester, Dr. George Cook, Concord.

Delegates to the American Medical Association, — that meets in New Orleans, in April, 1885,—

Voted, That the Executive Committee fill our delegation from such members as volunteer to represent the society.

(NOTE.—All members desiring to attend the meeting of the American Medical Association at New Orleans will confer a favor by sending their names to the secretary of the N. H. Medical Society as soon as possible.)

Delegates to Dartmouth Medical College—Dr. I. A. Watson, Concord, and Dr. I. G. Anthoine, Antrim.

Anniversary Chairman—Dr. William Child, New Hampton.

Committee of Arrangements—Drs. W. G. Carter, H. C. Cummings, H. M. French, C. R. Walker, and I. A. Watson, Concord.

The following programme for the annual meeting in 1885 was submitted by the Executive Committee, and was adopted:

ORATORS.

DR. T. B. SANBORN, Newport.
DR. H. M. FRENCH, Concord.

SUBSTITUTES.

DR. G. W. HUNT, Cornish.
DR. F. B. PERKINS, Londonderry.

To Report on Practical Medicine—Dr. George W. Weymouth, Laconia.

To Report on Surgery—Dr. George H. Bridgeman, Keene.

Substitute—Dr. C. R. Walker, Concord.

To Report on Obstetrics—Dr. D. S. Adams, Manchester.

To Report on Therapeutics—Dr. H. W. Boutwell, Manchester.

To Report on Necrology—Dr. E. E. Graves, Boscawen.

SPECIAL PAPERS.

Anæsthetics—Dr. C. R. Gibson, Woodsville.

Gynecological Diagnosis—Dr. C. B. Nichols, Franklin Falls.

"*Sanitas, Sanitatum Omnia, Sanitas*"—Dr. William Child, New Hampton.

The delegates to other state societies made brief reports, and the delegates to Dartmouth Medical College made the following report, which was accepted and referred:

REPORT OF DELEGATES TO DARTMOUTH MEDICAL COLLEGE.

Mr. President and Fellows:—

In accordance with the usual custom, your delegates visited Dartmouth College November 12, 1883, and attended to their duties as examiners of the class of 1883. We found the largest class in the history of the institution present for examination, some forty-seven presenting themselves, of which number, forty having passed a satisfactory examination, were awarded diplomas.

Your delegates arrived in Hanover about 3 P. M., and were continuously busy till the close of the exercises on the evening of November 13, 1883.

In this connection, we wish to recommend that more time be given the delegates in their examination, one day and a half not being sufficient to examine such a body of men and do every man justice. The allowance of time is no greater for a large class, like the present, than for a small one of less than half the number. In our opinion, the length of time should correspond to the size of the class, and thus equalize matters, so that the delegates should not be obliged to do anything in a cursory or hurried manner.

We found that some of the class could satisfy us of their fitness in a few minutes, while others required considerable time in order to thoroughly test them, and if the delegates could take the time for such inquiry, justice would seem to be meted out to those who are slow of speech. We found evidence, on all sides, of the continued prosperity of the college. In closing, we wish to thank the president and faculty for courtesies extended.

ABEL P. RICHARDSON, M. D.,
HENRY M. FRENCH, M. D.,
Delegates from N. H. Medical Society.

The several district societies reported through their secretaries, and the reports were referred.

The treasurer, Dr. D. S. Adams of Manchester, submitted the following report, for the year ending June 16, 1884:

TREASURER'S REPORT.

1883.			DR.
June 19.	To cash on hand	$435 03	
20.	To dues received at annual meeting	157 00	
20.	To fees of new members . .	95 00	
20.	To cash from L. G. Hill, for licenses	5 00	
20.	To cash from D. S. Adams, for licenses	13 00	
20.	To cash from F. A. Stillings, from exhibitors	5 00	

Dec. 31.	To cash from George Cook, for licenses	$12 00	
1884.			
June 16.	To cash received for dues since June 20, 1883 . . .	121 00	
			$843 03

			Cr.
1883.			
June 20.	By cash paid Republican Press Association, for printing . .	$9 25	
20.	By cash paid J. N. McClintock, reporter	5 00	
20.	By cash paid A. H. Crosby, rent of Temple hall . . .	5 00	
20.	By cash paid F. A. Stillings, dinner tickets	10 00	
20.	By cash paid F. A. Stillings, rent of hall	8 00	
20.	By cash paid F. A. Stillings, printing	75	
20.	By cash paid G. P. Conn, for services as secretary . . .	50 00	
20.	By cash paid L. G. Hill, expenses as censor	50	
20.	By cash paid D. S. Adams, expenses as censor . . .	6 50	
20.	By cash paid G. P. Conn, balance for money paid out . .	17 61	
July 7.	By cash paid J. Oscar Burbank, card notices and printing .	4 00	
Oct. 27.	By cash paid for express on Trans. and book to C. and back .	75	
31.	By cash paid Geo. Cook, expenses as censor	2 00	
1884.			
Feb. 1.	By cash paid Republican Press Association, for Transactions .	217 15	
June 6.	By cash paid Campbell & Williams, for receipts	1 50	

June 7.	By cash paid D. S. Adams, expenses as censor . . .	$5 30	
14.	By cash paid D. S. Adams, postage, paper, etc. . . .	8 60	
			$351 91
	Cash on hand		$491 12

June 17, 1884.

Account audited and found correct.

W. G. CARTER,
F. A. STILLINGS,
Auditors.

The Bartlett fund in the Portsmouth Savings Bank, July 1, 1884, was $1453.37.

The committee appointed by the chair to examine patients, consisting of Dr. Dinsmoor of Keene, Dr. Jones of Portsmouth, Dr. Mason of Moultonborough, Dr. A. H. Crosby of Concord, and Dr. Towne of Manchester, beg leave to report that two cases were presented before them, the first a case of enlarged testicle, presented by Dr. Stillings. The question was one of diagnosis. It was decided to be a case of orchitis, with slight effusion.

The second case was presented by Dr. Fowler of Bristol. The question was whether the patient had organic disease of the heart. It was believed by a majority of the committee that there was enlargement of the heart, with valvular lesion, with some other complications. No treatment was recommended by the committee, they believing that the family physician, Dr. Fowler, could only properly direct the treatment from day to day.

Accepted.

On motion of Dr. Watson,

Voted, That the secretary receive fifty dollars for his services.

The following resolution, by Dr. Hill of Dover, was adopted:

Resolved, that the thanks of the society be extended to Dr. and Mrs. Conn, for their invitation and entertainment at their residence last evening.

Several members reported and discussed interesting cases, and the programme having been carried out, and no further business being presented, it was

Voted, to adjourn until the third Tuesday in June, 1885, when the society will hold its annual meeting in the city of Concord.

GRANVILLE P. CONN,
Secretary.

PRESIDENT'S ADDRESS.

DR. J. W. PARSONS, PORTSMOUTH, N. H.

Fellows of the New Hampshire Medical Society:—

The swift, unceasing roll of time has added to the irrevocable past another year with its vast written and still vaster unwritten history, and has borne us on to another anniversary, which we are to celebrate by such professional work as shall raise our former excellent standard still higher, and by such social intercourse as will render our affiliations still stronger.

It is my very agreeable privilege to extend to you from this chair a hearty salutation on this the ninety-fourth anniversary of our society, and welcome you with all the cordiality which similar occasions enable us to express to one another once a year. I most keenly realize that this privilege is an honor, and a mark of your confidence, of which I hasten to declare to you my fullest appreciation.

I wish I had the diction of a Shakespeare, the philosophy of an Emerson, and the wit of a Holmes, to aid me in a satisfactory performance of this portion of the duties which our regulations make incumbent upon the presiding officer to discharge. The medical society of an adjoining state once adopted a resolution requiring the president to prepare and read, or present, an anniversary dissertation, or, in default of the same, to pay to the society the sum of fifteen dollars.

Gentlemen, if we had such a regulation, I should like to exhibit to you with what alacrity and liberality it would be my convenience to contribute to the exchequer of this association on this occasion. But, unfortunately for my audience, no such evasion of this duty has ever been countenanced by this society, and I

must therefore conform to a wise requirement, and, with the assurance of your earnest coöperation to make this convention a success, I beg your indulgence for my deficiencies in attempting to impartially serve you while in this honorable position.

The subject to which I shall first ask your attention for a few minutes is—

The Importance and Welfare of Medical Associations, especially our own Society.

We have assembled from the remotest districts of our state in the interests of the profession which it is our pride to represent, and to add another chapter to the already eventful history of our venerable society. Although this chapter may not contain the record of a discovery such as only occasionally bursts upon medical science, yet it will indicate to the profession throughout the country, and to those who are in the progress of knowledge to more than fill our places in the future, that we are not idle or unmindful of the magnitude of the work which lies beyond present medical acquirements, but that we are active, watchful and earnestly striving as individuals to do our part towards elucidating the many mysteries which beset our daily work, and laboring as a society for the emendation of the profession.

Much has been accomplished, but much more remains to be accomplished, for the possibilities of the future far exceed the realities of the past. Progress is the world's motto, and it is as boundless as eternity.

Medical associations have a portion of this work to perform, which can be achieved by no separate individual effort. Although associations do not make discoveries, they serve to stimulate the members to greater exertions and to a spirit of healthful rivalry, and to divert their minds from an unconscious routine into which all inadvertently fall, into new and broader channels of thought and investigation. All societies and associations are progressive in their tendencies. Although not incapable of mistakes, and although sometimes disturbed and divided by questions which all men cannot view with the same understanding, yet the combined wisdom and experience of the many must eventually determine the right. Members of every trade and profession have interests in common, for the advancement and protection of which association and concerted action are necessary.

The power and influence of association in every sphere in life are seen and felt on every hand in the world's general progress. The application of the arts and sciences to the wants of mankind, in the development and completion of the wonderful enterprises of the present age, could not have been made except by associated wisdom and capital. Nations and states are but associations for the better protection of their citizens, who are willing to submit to certain restrictions that other liberties may be the more securely obtained and completely enjoyed.

Civilization itself is but the gradual outgrowth and result of society and association. Its experiences and increasing necessities are lessons and demands which create the inventor, and stimulate the statesman and the student to deeper thought in the solution of the intricate problems of political economy, sociology and science.

The individual may originate a thought or a discovery, but it must be given to society in reality or imagination, that its power or practicability may be tested before its influence can be measured or its worth estimated.

There is an interdependence, an action and reaction, constantly existing between persons and society. In unity of purpose there is strength in action. The common good becomes a personal benefit. The members make the body, but the body makes the members potent.

It has been said with much truth, that there is a lack of association, a want of mingling among the people of this country, and among no class of its citizens has this want been more apparent and detrimental than in the medical profession.

Familiarity may breed contempt, but fellowship and acquaintance will engender respect. Much of the jealousy, bickering and want of harmony, which characterized the profession in former days, arose from lack of opportunity for communion, for the comparison and discussion of individual opinions and interests.

Quackery and empiricism, with their boasting pretensions, did much to cause this suspicion and want of confidence among physicians. But in this day of higher education, and the multiplication of opportunities for direct and indirect intercourse through

societies, medical journals and books, medical men have become more harmonious and liberal. The beneficial results of organization in advancing the cause of medical education and elevating the *morale* of the profession cannot be questioned, and may be more fully comprehended when we consider with what confusion and professional chaos we should now be afflicted, if there had never been an opportunity for conference over the many questions vital to ourselves and mankind.

So important are medical societies to the profession and the individual that a medical man's acquirements should not be considered complete until he has affiliated with some medical association. The duty to self and those he is to serve demands it, as well as the well recognized principle of unselfishness which characterizes the physician in freely donating to the world all discoveries.

Who can for a moment doubt the influence of this society upon the profession of the state? There is not a physician in the commonwealth, whether a member or not, who is not in some measure indebted to this society through its efforts to promote the individual interests of the profession, and advance the cause of medical science. Indeed the debt due this society does not wholly rest with the members of the profession; every citizen and the state are under obligation to us for the unselfish regard which we bestow upon all questions of public concern pertaining to our chosen vocation. We have been, and are, more eager to advise and labor in the cause of sanitary science than the people have ever been liberal in contributing to this end.

The individuals of no trade or vocation labor so sedulously to abridge the necessity of their calling, as those of the medical profession, as is abundantly shown in the vast amount of work bestowed upon preventive medicine. The watchful practitioner's duty to his patrons to-day is as much to instruct in the prevention of disease as to cure it by drugs, and the extensive amount of practical information in this direction, which has been freely given to the public, places every state and the nation under obligation to the medical faculty.

When the importance of medical societies, with their attendant opportunities for mental improvement, for elevating the ethical

standard of the profession and for social enjoyment, is considered, it becomes a lamentable fact that out of the five hundred or six hundred (this is only a rough estimate) regular physicians in this state, the names of only about two hundred appear on our roster. The real cause for this indifference to association and society work is not so apparent as to be easily stated. If the old or young physician stands aloof because of timidity to mingle with his professional brothers, which has arisen from a vague apprehension that he may be their inferior, he only adds to his weakness, and discards the occasion which will give to him the mental strength and the confidence to become their equals or superiors. If he excludes himself because of a selfish belief in his sententious superiority over the common fraternity, he displays an egotism the value of which he would be better able to estimate by placing himself in a position to compare his own with the shortcomings of others. A sound self-respect and true professional devotion are increased by these reunions, which afford occasion for the most intimate interchange of ideas upon the many practical and theoretical topics pertaining to our life's work, the study and cure of disease. The attrition of honest, friendly criticism, and fraternal meetings, quicken the intellect, polish the manners and arouse a degree of self-reliance which goes a great way towards securing public estimation. To the workers, associations afford opportunities which excel those of medical journals for the announcement and discussion of the results of their labors; to the drones, these conferences must serve as a stimulant to arouse their pride to a degree of healthful activity.

The influence of this society is an important educational power in the profession of the state, and for our own interests we should urge every physician who can affiliate with us to become a member. Every reputable member of our calling should be one of our number, if he values his own welfare and entertains a dutiful appreciation of the trust placed in him by his patrons for the care of their health and lives. He should avail himself of every means to enhance the personal and general progress of the profession, and no more fruitful occasions will be found for this purpose than in these reunions, where discussions of the difficulties which oppose us on every side are pregnant with experience, and where can be taken

that concerted action necessary to meet all topics of common import. Our meetings should be so attractive that their reputation should secure to us the united support of our medical men. To attain this end, every member must show some disposition to work. It is not enough to come here once a year, pay our dues, eat a dinner and depart, leaving those who have essays to read after the feast to talk to empty benches.

If we have imposed the task, for it is a task to many of us, of essayist upon a member who is ready to respond, we should at least accord to him the courtesy of an attentive audience. And here I must state that it does not seem to me that we receive the greatest measure of the benefit which we ought to derive from these papers, by allowing them to go into the hands of the committee on publication without discussion, as has been the custom. I am aware that the two days' session, which in reality includes only about twelve hours, is a short time in which to read and discuss many papers. But I think there can be no doubt that greater advantage would accrue from the reading and discussion of a few theses, than we now receive from the mere formal reading of many, which allows all the debatable points to fall flat and almost profitless upon our ears. If a member desires the discussion of an important topic which he has comprehensively stated to the society, it is almost impossible to obtain it under our present methods. An order of exercises and some system is necessary for the guidance of the meetings, and it would be a most useful innovation if disputants for every debatable paper could be appointed to open the discussion; and if members would indicate a greater willingness for work, no matter how slight, the executive committee could easily arrange a programme that could not fail to excite the liveliest interest and increase the practical value of our anniversary. Believing as I do in the profitableness of discussion of papers, I shall take the liberty, unless objection is made, of calling for debate of each paper read at this meeting. I would suggest that discussion immediately follow each dissertation while the subject is fresh in mind, and that each speaker be limited to five minutes, and that no member speak twice upon the same paper.

Although our meetings have as a rule yielded results indicating a commendable earnestness on the part of a few, yet there is a

want of that general enthusiasm which is necessary to the performance of the best work of which we are capable. Every member should be as willing to contribute to the general good as to enjoy the fruits of others' labor. My experience as a member of the executive committee for five years has given me opportunity to realize the difficulties of that committee in securing the necessary number of essayists to insure the success of each succeeding meeting.

The performance of any literary work by the majority of active practitioners must be a most laborious work, not wholly disagreeable, but nearly impossible from the constant interruptions to which they are liable, and from the wearing anxieties and perplexities which encompass them on every hand and which serve to distract them from the unusual labor.

But however feebly the duty may be performed, it should be done from that sense of obligation to the society which is due from every member, who should always show a spirit of willingness to assume the responsibility of any task which may be imposed upon him for the common good.

I believe much of the ever-present unwillingness of members to actively participate in society work arises from a lack of confidence in their ability to satisfactorily perform many of the duties pertaining to useful membership.

To these let it be said, that we are a band of co-workers laboring in the same cause, having the same interests, which induce mutual respect, and that in this hall we are all peers in the right which we possess to express our views upon any topic, be they ever so homely. If a member has doubtful opinions upon any subject, or perchance displays his ignorance, he is in a position to have his doubts discussed and his ignorance charitably and profitably exposed.

This is a school in which we are simultaneously teachers and students, and no man should be so selfish, or recreant to his duty to the profession, that he would not be willing to assume the position of the former in return for the enjoyment of the opportunities of the latter. I have heard it from the lips of those who take back seats at our meetings, and those who decline to join us when importuned, that they cannot perform any literary work;

that they cannot make reports; that they cannot formulate their ideas in a manner satisfactory to themselves. This is an unfounded supposition in many instances, for the effort has never been made. It has been said that a man may write at any time if he will set himself doggedly to it. We all have opinions, somewhat notorious for their diversity, based upon study and experience, and if the trial is made, words can be found for their expression, and if not novel to all, they may be instructive to some. The time and labor spent in the preparation of a thoughtful dissertation does not operate solely to the advantage of others, for the mental exercise will so develop the latent ability of the author as to increase his self-knowledge and insure greater future success. "Nothing succeeds like success." The momentum of one successful effort is felt in each succeeding struggle.

As it is with the student who acquires his knowledge so gradually that it is almost imperceptible, so it is with our society. Although a single meeting may not seem to yield the fullest measure of our expectations or desires, yet the influence flowing from these annual assemblages is a potential agency in promoting the prosperity of our profession not easily stated in brief words.

The duties of no occupation are more confining or exacting than those of a physician, and strict attention to any business is commendable; but when a medical man entertains the belief that his patrons can demand his whole time to the exclusion of a day's recreation, or the devotion of a few hours to the society of his fellow physicians for the purpose of giving and receiving new facts and experiences which we as students are constantly observing, he falls into an error which serves to limit his knowledge, deprives the profession of his experience, and does injustice to his patients.

Our profession is one in which Dives is very chary of his favors, and especially in our state, where practitioners are so largely located in the country that, with the long distance to travel and the meagerness of fees, the number of working hours consistent with even the rugged constitution of the average country doctor is not sufficient for him in which to accumulate such a competency as will permit extravagance or careless expenditure. But when a physician makes the plea that he cannot afford to be-

come a member, or attend the meetings of this society, he entertains a misapprehension, and fosters a delusion which will tend to lessen his success, and contract his already narrow sphere, and place him in unfavorable comparison with his progressive neighbor who can foresee the substantial return from an investment in a membership to this association. Both the time and money spent at our annual meetings are well employed and profitably invested.

I cannot believe that a single member of this society, who has been a constant attendant, can have so far failed to profit by them that he does not revert to them with satisfaction, and anticipate them with warm impatience. Such at least has been my experience. I feel under obligations to the society which I cannot repay. It has been a source of knowledge, and has given to me an opportunity to compare my own with others' qualifications and short-comings, which has served to give to me a confidence and an understanding of my profession which has been of daily profit, and which I could have secured from no other source. It has given to me the opportunity to form many pleasant associations and friendships which go far to make life more enjoyable. Indeed the personal acquaintance with the profession of the state alone more than repays a man for attendance here.

Medical education has received an immense impetus in the past ten years, and in no profession is there still such a cry for a higher education as among physicians. The strides in the various departments are so numerous, and the work of advancement so refined, that the uneducated mind cannot grasp and apply the knowledge which is necessary for the successful pursuit of a physician's labor at the present time. We are not in a position to dictate to medical schools any higher course of study, but we can exert an influence for which the time has come, for preventing the entrance upon the study of medicine of young men whose preparatory education is deficient. Few young men enter upon the study of medicine without consulting or placing themselves under the tutorship of a physician, and this opportunity should be seized by us to discourage every aspirant who cannot exhibit the proper qualifications. The doors should be wide open to the educated, but carefully guarded against the entrance of the ignorant, even

at the risk of occasionally excluding a brilliant mind. There is no way in which we can so easily and effectively enhance the standing of the profession as this.

We can do no more to carry out the design of the founders of this society as expressed in the words of its first president, Dr. Josiah Bartlett, who said: "I have long wished that the practice of medicine in this state, upon which the lives and health of our fellow-citizens depend, might be put under better regulations than in times past; and have reason to hope that the incorporation of the New Hampshire Medical Society, if properly attended by its Fellows, will produce effects greatly beneficial to the community, by encouraging genius and learning in the medical science, and discouraging ignorant and bold pretenders from practicing an art of which they have no knowledge."

The original charter for this body limited the number of members to seventy. An amendment passed in 1816 increased the number to two hundred. I would suggest that as the physicians in this state have largely increased since 1816, a committee be appointed to petition the legislature at its next session for an amendment increasing the number to five hundred.

We are rapidly approaching our one-hundreth anniversary, an occasion which we should celebrate by more than ordinary exercises; and as has been before suggested from this chair, it is expedient that some measures should be considered for the proper observance of our centennial anniversary. And perhaps it would be advisable to appoint a committee to consider what action, if any, it is necessary to take at this early date.

This brief plea for our medical society, and appeal for more willing, earnest performance of the duties of membership are made with the hope of arousing and encouraging, among some of us, an enthusiasm and confidence which will result in a more spontaneous participation in the work which must be performed to attain that reputation of which each member would be proud to boast, and which I firmly believe we have the ability to acquire.

At the risk of wearying you, permit me to occupy a little time in glancing at some of the defects of our registration law in which certain radical changes have been made during the past year. Any one who has given the subject of registration any consider-

able attention will at once realize that it is impossible, in the present state of the law, to obtain perfect registration returns, and that under any law the same conclusion would be true to some extent. So far as relates to births and deaths, the law looks to the medical profession for the proper returns. The burden of the work is put upon physicians. This arose from the fact, it is presumed, that they were the first to discover the great advantages of registration, and to urge its adoption, and because from all time they have been expected to perform any eleemosynary and gratuitous work required of them. This may have been right once, but it is believed the time is past when we should be required by law to write up genealogical and biographical sketches of those innocents whom we assist into an independent state of existence, and of those not so innocent whom our skill can no longer save from the inevitable death. Every individual at birth and death we are required to immortalize by preparing for record a brief personal and family sketch, for the benefit, not of physicians specially, but of the public, and the compensation for this historical work is the munificent sum of twenty-five cents for each record made.

By the recent modification of the law we are required to perform this misplaced service even for those who have no extra-uterine life, only a bodily existence. Indeed the still-born require duplicate favors of us, for each must be returned as a birth and death. And except for the general integrity of the members of the profession, and the meagreness of the fee, there might be some fears that the last mentioned requirement would operate as an incentive for the occurrence of more still births than otherwise would be if this double premium was not offered. What advantage can be derived from compelling the medical profession to return births and deaths, the writer has never been able to understand, after an annoying experience of ten years in performing this duty. If it is an advantage based on a greater degree of intelligence of physicians than could be obtained by delegating similar authority to other persons, we most gracefully acknowledge the compliment, but must still advocate a trial of other methods. There is no justice or necessity in asking us to perform a public service for a mere pittance, which can be better accom-

plished by the proper public authorities, in the case of deaths at least, and should be performed by the persons more intimately interested in the case of births. There is no more reason or right in exacting this labor from a physician, than there would be in asking him to render any other information which might incidentally come to his knowledge through his business, and which would be of public benefit. At the first thought it would be considered a trivial duty to fill out a blank certificate of death, and so it is under favorable circumstances. But how many of us are present at the death of our patients to obtain the desired information, and if present, what an unpropitious moment to seek the practical details from friends distracted with grief! These details many cannot give except upon consulting records and other friends, and thus we are frequently compelled to make a special visit to obtain the desired information. And perchance if the family is a large one, we may find it inconvenient to spend an hour in prescribing for every ache and pain which can be remembered, because the family know it is an unsolicited visit, and therefore a good opportunity to secure gratuitous advice.

As an illustration of the effect of the present law upon the time of a busy practitioner, permit the relation of a suppositive case: A physician is summoned ten miles to visit a patient sick with diphtheria. He visits and prescribes for the person and promises to call the next day. The following morning the physician receives a message that the patient is dead. The family reside miles from the post-office, and perhaps never go to it, so that communication by letter is impossible. The law demands that the physician shall make an immediate report of this death. If he does not wish to incur the risk of being complained of by some jealous rival or watchful enemy, or is anxious and particular to observe the law, he must leave important and urgent business and drive, it may be, over almost impassable roads to obtain the necessary information to make up this person's necrological record, and to inform the proper authorities that a disease dangerous to the public health has occurred in the town. And the unfortunate physician's duty under the law does not end here. He has obtained the information, but the law is not satisfied. It directs him to deliver these items of public and private interest

to the undertaker, town clerk, or other person superintending the burial of said deceased person. The physician is in a strange town and, perhaps with the risk of losing his route, he is directed to the proper person, who, unfortunately lives miles away, and who upon the doctor's arrival is not at home, he having gone with his family to the nearest village to procure the necessary funeral outfit. In despair the doctor tucks the certificate under the door, creeps with a smothered exclamation into his carriage, turns his horse homeward and deeply meditates on the wisdom of the law and the magnanimity of the state, which pays him twenty-five cents for his day's work, and as a penalty for being a physician.

Section four of the present law requires that the physician attending at last sickness—it does not state that the last medical attendant of a deceased person—shall fill out and deliver a certificate. This last sickness may extend over a period of months or years, and in the time, as is frequently the case, many physicians may have been in attendance, any one of whom may be called upon, or even all, to fill out the certificate under penalty of one hundred dollars' fine if he refuses. If the deceased person had only one medical attendant it is very doubtful whether that physician should state of what disease the patient died, if he has not been visited for weeks or months prior to his decease, for the reason of the possibility that some acute, intercurrent malady may have caused death, and thus make the statement worse than useless that he died of the chronic trouble.

In the case of suddenly fatal sickness, although the physician has seen the patient only when in a state of *articulo mortis*, with no opportunity perhaps to learn the history of the patient except from friends, he is still expected to fill the necessary certificate. For the benefit of accuracy in cases of positive diagnosis, all doubtful cases should be recorded as doubtful, unknown, or the probable cause of death stated as probable, rather than guess at the cause for the sake of recording something.

It is well known that a large percentage of births occur without the attendance of a physician.

To meet this fact, section two of the law requires that the "midwife or other person in charge, who shall attend, assist or

advise at the birth of any child, living or still-born, shall report the birth." This is so general in its application, that in many cases what becomes the duty of all concerned will be observed by none, and thus the law will defeat itself and often become inoperative. There are but few professed midwives, and any elderly woman of experience may be occasionally called upon to do all that is necessary at a natural labor as a mere act of kindness, and in most cases be as ignorant of her legal responsibility as the child around whose umbilical cord she puts the ligature.

Section ten of the registration law constitutes the town clerk's record of any birth or death *prima facie* evidence of such birth or death, in any judicial proceeding. In the instance of deaths, so far as relates to the physician's certificate, this is inventing a remarkable species of *prima facie* evidence. How many physicians sign their names to the certificate with the knowledge from personal inspection that the person is dead? In the writer's own experience in the past ten years, he could not state before a court of justice that one-half of the persons to whose death he has certified were dead from his positive, personal knowledge. They died in his absence, and he only knew of their death from hearsay, it may be of friends. But as the law now stands, with the addition of the undertaker's certificate, there can be but little opportunity for deception or mistake, and this matter is touched upon merely to show how loosely we may certify to that which we know but little about. We certify to the age, place of birth, name, and occupation, when in fact we may have no knowledge whatever of these data, and only take them from hearsay.

It is a great mistake to suppose that registration laws are for the sole purpose of ascertaining the number of births and deaths, and the causes of death. This is a small measure of the benefit for which a good registration law should be made. The chronological and genealogical record accompanying the certificate of a birth and death is the most valuable part of the record for future reference. Property questions of vast importance, family histories of the keenest interest, will constantly arise in the future, only to be settled by a thorough system of registration. And, in this connection, attention is called to a most egregious mistake of the present law, which directs that a birth shall be returned within

six days. It is a matter of fact of which we are all cognizant, that children rarely receive a name within this time. As it is by name that a person is known and designated in all social, business and legal relations, it is at once evident that the omission of the name from the birth record is omitting from the registration the most important item, if, as the writer believes, the registration is not a mere table of vital and mortuary statistics, but a most valuable genealogical record.

It may be said to this that the sex and date of birth would settle future questions and establish identity. But upon examination this will not appear so clear. Although sex would be easily established, perhaps the date could not be, as it is not a matter of daily reference among persons, and if there were a succession of births of the same sex in the same family, it would be difficult to identify the person in a future generation, a difficulty which would not be encountered if a full name were registered.

The writer does not design that these criticisms of the law shall be interpreted as indicating in any sense that he does not strongly advocate a good registration law, or that he is not fully aware of the difficulties which will present themselves in the attempt to put into execution any law which would insure more perfect registration. It is believed, however, that the law can be simplified and made more efficient, for as now observed it falls far short of yielding results sufficiently reliable for the solution of any of the important problems relating to the study of vital statistics.

It is easier to destroy than to construct, and to point to the defects of the law than to suggest the remedies; but the following recommendations are offered, with the belief that, if adopted, they would yield better results than could be secured in any other way.

First. The medical profession should not be the medium through which the returns should be made. If it must be done by physicians, then give them sufficient authority to secure as complete returns as possible, and reward them with some adequate compensation. The only material information which the physician should furnish in the case of deaths is the cause of death, and this he would willingly supply without reward, upon application of the proper authority. So far as relates to the return of deaths, the subject can be disposed of in a few words.

The necessary data should be obtained by the public authorities upon the application for a burial permit. No interment should be allowed without a permit, and no permit should be granted till the required facts are furnished so far as possible. This would place the responsibility where it belongs, and impose the duty upon persons who are elected, or appointed, and paid to perform such public work.

This, excepting for the unavoidable incompetency of public officials, would insure the most perfect registry possible. Some one person would be responsible, and greater accuracy and less confusion than now would be obtained. The proper person to perform this work should be the town or city clerk, or some person especially appointed.

The registration of births presents many greater obstacles than that of deaths, for obvious reasons. A large percentage of births occur without the attendance of a physician or a professional midwife, and, as the law now stands, hundreds of births must pass unrecorded.

A circular from the State Board of Health last year stated that 6,124 births and 5,000 deaths were reported; and that comparing these returns with the average percentages as given by accurate registration in other states and countries, there must have been 2,400 births and 1,800 deaths unreported. This of itself is a sufficient commentary on the inefficiency of the law as it existed last year, and doubtless will apply well to the results of the present year, at least so far as relates to births.

A full return of births can only be realized by making the parents the responsible parties for the record, under penalty of a heavy fine. It would require several years in which to educate the public to perform this duty, but when once fully adopted the results would be such as can be reached in no other way.

As has been already stated, the name of a person establishes his identity and individuality, and at once becomes an important factor in his relation to the state. If it is necessary that a person should obtain special legislation in order that he may have his name changed, how equally important it is that a name and the person's identity should be secured by law at the beginning of life!

For obvious reasons the naming of a child within six days after birth cannot be expected, and as a substitute for this period, in connection with the above suggested change in the law, that parents make the return of births, the time should be changed to thirty days, and within this time the naming of the child should be compulsory, for the purpose of making the returns more perfect, especially as a genealogical record.

The law demands that a record shall be made of still-born children, and that these shall also be returned as deaths. The advisability of this requirement has been questioned, but for the purpose of family history and avoiding as few exceptions to the application of the law as possible, it is better that it should remain as it is, although the mere numerical fact can afford little information of value to the student of vital statistics. Other data relating to the real or probable causes of still-births would be essential to make them of practical value, but to obtain these would so complicate the returns as to render it impracticable. The return of a still-birth as a death seems at first thought a superfluity, but for the reason of making the law as effective as possible in relation to burial permits, the continuance of the requirement is advisable. It would be of great additional service if all abortions and miscarriages, with the attending circumstances, could be obtained, but from manifest reasons this would be impossible.

To simplify and define the law, a reasonable decision of the State Board of Health informs us that it is not expected that still-births prior to the seventh month will be recorded.

Perhaps I have made much ado about nothing in going into the details of this subject, but I have been so annoyed by the requirements of the law in the past, that I cannot believe that I am an exception, and I feel that it is the duty of some one to utter sentiments which I think must be those of the profession generally. I therefore earnestly hope that our State Board of Health will take measures to secure such modification of the law as will relieve physicians of this misplaced duty, and such alterations as will insure a more reliable and valuable record.

In conclusion permit me to congratulate you upon the harmony

which has pervaded our former meetings and to express the hope that the same spirit may characterize those of the future, and may we leave such

"Footprints on the sands of time"

as shall give no uncertain signs of our devotion and loyalty to the New Hampshire Medical Society.

REPORT

OF THE

COMMITTEE ON PRESIDENT'S ADDRESS.

In addition to the verbal report rendered on the second day of the meeting of the society, recommending the president's address to the Publication Committee, we beg leave to submit the following: —

That we regard the address of our president, John W. Parsons, M. D., as one of marked ability and abounding in good advice, and we fully believe in and sustain the positions taken, with the exception of some parts of his remarks upon the subject of the registration of vital statistics.

An examination into this subject shows that as early as 1714 a registration law was passed, making the various town clerks registrars; but not providing for any supervising authority or any of the details necessary to secure success, it was a dead-letter.

In 1849 a law was enacted substantially the same as has been in force up to 1883. Under this law the physicians were, for the first time, required to make a report of births and deaths. It should be remembered that this law was created through the efforts of the New Hampshire Medical Society, and although for obvious reasons it was insufficient to secure a good registration, it was much more efficient than any that previously existed. Its chief defects were in the fact that the certification, both to births and deaths, was an annual one only, and through lapse of time many cases were overlooked in making up the report which the law required.

To obviate the faulty provision of the old law a new one was enacted at the last session of the legislature, requiring a burial permit and a return of each birth to the clerk of the town or city within six days. Other states having a similar law in force have secured the best results, and it is believed that a trial of the present law is advisable to demonstrate its results. It is admitted that it possesses some faults; but it is our duty to sustain it and carry out its provisions so long as it is in force.

The state registrar invites suggestions of a particular nature, looking towards every possible improvement in our system of registration of vital statistics, and any plan that offers a reasonable probability of perfecting this system will be earnestly presented to the legislature.

Your committee agree with our honored president as to the great value of the registration law, the requirement of a burial permit, the defects in the registration of births owing to the failure to secure the given-name of the child in many instances, etc.; but believe that with its imperfections, it is far better than no law at all, and that by studying the subject in all its phases, we may be able to suggest, eventually, a remedy.

We submit that no physician should put himself to any such task as is portrayed by our president in the imaginary instance of delivering a certificate of death. It is the duty of the undertaker, or person officiating as such, to seek the physician and obtain the necessary facts. It is not expected that the physician will do further service in this direction for the sum allowed, all additional service being rendered as an especial favor, or as a matter of convenience. We believe that it is incumbent upon every physician to educate the public so far as he can, as to the inestimable value to the state of an efficient system of registration, that in the end such may be secured, and with a liberality that shall demand of no one services that are inadequately paid. We also agree with the suggestions that the registration of vital statistics should possess, in addition to the bare facts of births, marriages, and deaths, an historical and genealogical value, and to that end there are now being received by the state, some twenty thousand names annually, with sufficient data in most instances to identify the person.

To sustain the present law, and use our best endeavors to remedy its defects, we believe to be the duty of not only this Society, but all who have any part in its execution.

Respectfully submitted.

IRVING A. WATSON.
GEORGE A. CROSBY.
S. C. WHITTIER.

INQUIRY INTO THE CAUSES OF INSANITY

WITH ESPECIAL REFERENCE TO PREVENTION AND TREATMENT.

BY CHARLES P. BANCROFT, M. D., CONCORD.

In no class of disease has modern scientific investigation done more to assist the physician and ameliorate the condition of the patient, to overthrow old barriers of superstition, and to develop a rational and intelligent treatment, than in insanity. The history of insanity and its treatment from earlier times down to the present day is exceedingly interesting. Its pages are filled with the records of the grossest superstitions and the most absurd and childish fancies. For centuries insanity was not considered a disease; but the patient was supposed to be possessed of some evil and unclean spirit that had taken up its abode in the unfortunate person. Nothing short of exorcism could therefore relieve the patient, and hence the study and treatment of insanity did not properly belong to the province of the physician, but was relegated to the mummeries and incantations of magicians and witches who were oftentimes half crazy themselves, and who were supposed to be in some way invulnerable to the antics of these demons, and could thus deal with them with impunity.

In the early centuries of the Christian era the aid of the priesthood was invoked for the cure of insanity. Mental aberration being considered to be the result of a demoniacal possession, mankind very naturally were led to believe that the powers of good possessed some potent charm over the evil spirit world. Hence the earlier prescriptions for mental disease were composed of a curious mixture of popular drugs, holy water and prayers. I give one such prescription in full, as it illustrates perfectly the

vague, uncertain notions about insanity in those early days: "Take the ewe hop plant, wormwood, bishopwort, etc.; put these worts into a vessel, set them under the altar, sing over them nine masses, boil them in butter and sheep's grease, add much holy salt, strain through a cloth, throw the worts into running water. If any ill-tempting occur to a man, or an elf or goblin night visitors come, smear his forehead with this salve, and put it on his eyes, and where his body is sore, and cense him with incense, and sign him frequently with the sign of the cross; his condition will soon be better." Another prescription for "Devil-sickness," as it was called, was as follows: "A mixture, compounded of many herbs and clear ale, was to be drunk out of a church bell, while seven masses were to be sung over the worts or herbs, and the lunatic was to sing psalms, the priest saying over him the *Domine, sancte pater omnipotens.*"

For many centuries these superstitious and very unscientific views concerning insanity obtained. This dark cloud of ignorance was only dispelled in very modern times. As you all know, Pinel was among the first to declare that insanity was a disease, and that it should be treated intelligently, like any other disease; that incantation, chains, and punishments were as unreasonable as would be the same treatment of rheumatism or pneumonia. It is singular to witness, however, how slowly the human mind parts with the gradually acquired traditions of the past, and how difficult a thing it is to obliterate the most manifest errors which have been transmitted from generation to generation, and have become incorporated, so to speak, in its very texture. Even at the present day traces of this same incomprehension of insanity still exist, and many find it difficult to understand that it is disease, governed by the same laws as other disease. They wonder why they cannot argue away a delusion, although they know well enough that the pain in a rheumatic joint cannot be dispelled by such sophistry. Some, less humanely inclined, think that the changed and perverted character is merely a general state of "cussedness," and that a good whipping would effect a cure, although they well know that such a course would not cure a cough proceeding from pneumonia. As a result of these erroneous ideas of the past, a tendency still

exists to separate insanity from the general category of disease, to place it in a sphere by itself, and to consider that when it does come, it is a misfortune not caused or controlled by the same laws that influence disease in general.

Until very recently it has not been thought necessary to introduce its study into the curriculum of our medical schools, and hence even our physicians have been led to believe that disease of the mind was a special province that did not concern the general practitioner. On the ground, however, that insanity is a disease of somatic origin, it becomes at once a subject of vital importance to the practitioner. For, by an intelligent understanding of the causes of mental disease, he may do much to prevent the appearance of the same. As a proper understanding of the causes of diphtheria and typhoid fever led to the prophylaxis of those diseases, so a correct knowledge of the causes of insanity may teach us how to prevent the most unfortunate calamity that can befall a man, viz., the loss of those higher faculties which are almost more to him than life itself. For these reasons I wish to discuss as briefly as possible, a few of the principal causes of insanity, feeling that when the disease is approached from this etiological standpoint, we may arrive at a somewhat rational system of prophylaxis and treatment.

In glancing over the list of assigned causes of insanity in the admission book of any hospital, or at the table of causes in the asylum reports, one is impressed with their great variety and number. One sees in this list, over-work, over-study, disappointment, grief, excessive joy, fright, anxiety, and almost every conceivable factor, social and moral, in the daily life of man. But it is also evident that these are not causes *per se*. Some other element must necessarily exist in the individual which renders him susceptible of being influenced. In estimating the above factors as causes, we have only half reached the truth. For if these were actual causes of mental alienation, then the entire population of the civilized world would become insane; for *every* man and woman is subject during a greater part of his life to these adverse influences, and yet how small a proportion are made insane by them. What, then, is this underlying and predisposing influence which renders one man liable to become

insane on the appearance of circumstances which upon another man seem incapable of producing any effect? I think we find, in large measure, the answer to this question in the *law of heredity*. But it is necessary to consider heredity in the largest sense of the word. Insanity itself, as a special morbid entity, is not necessarily inherited, but a certain constitutional vice *is* transmitted, which may lead to such an alteration of nerve force that insanity may be a result. And this is *the* one important point that I wish to emphasize: the causes of insanity lie deep down in the innermost life of the individual; they exist in the blood that circulates in his veins, and in the very structure of his nervous organism; they are incorporated in the very foundations of his physical and animal life, and only become apparent perhaps after years of dormant existence. In this respect, therefore, insanity is intimately related with all disease, and hence is a subject of as much concern to the general practitioner as other diseases which he has thought belonged more exclusively to his province.

The laws of heredity have been closely studied in the lower order of animals, and it is well known that the virtues and the vices of the parents are transmitted to the offspring. So in the human race, good and bad qualities are transmitted. Vices of constitution tend to reproduce themselves in the children. All those factors which tend to lower the physical stamina of the individual, which tend to diminish the normal resisting power of the nervous system to shock and disease, all these factors are transmitted to the children. And it is especially those factors which tend to depress vitality, to disturb the healthy flow of healthy blood to different parts of the body, that are most apt to bring about in the descendants diseases of low vitality, such as scrofula and consumption, and also diseases damaging the normal and regular display of force in the nervous system, such as chorea, epilepsy, hysteria, and insanity.

We have, then, reached this first point in our inquiry into the causes of insanity: Mental disease and physical disease are closely related in their origin and development; both are transmitted from parents to children; and both are mutually interchangeable. A vicious constitutional taint may be transmitted, but not necessarily in its original form,—it may appear in the form

of any one of these allied diseases. Thus phthisis may appear in several members of one generation ; but in the next generation this form of disease may disappear entirely, and in its place insanity appear. The records of our insane hospitals present many cases which illustrate this. In some of these cases a faulty diathesis is established by the alliance of bad elements, and then we see phthisis and insanity appearing at the same time in one generation. I will mention as illustration, two cases taken from our own state hospital records.

Case 1. A young man developed hysterical melancholia at an early age. He was seized with a morbid desire to destroy his life, but felt that he must do it in a peculiar way. He wished to die in some place where his body could not be found, and hence would run away from home and climb trees with the wish that he might starve to death in that position and not be discovered. As he grew older, this same morbid desire persisted, and at the same time a destructive tendency developed itself. He would destroy his handkerchiefs, collars, and neckties, but rarely more than one article would be demolished in a week. He seemed to be possessed of a morbid fancy that during each week some one thing must be destroyed. At one time it showed itself in an impulse to break hens' eggs and to kill young chickens. He always acknowledged that he did these things, regretted the fact as much any one, would promise to do better, but seemed powerless to control himself when the impulse fairly seized him. Physically he was not strong ; he was of slight physique, inclined to anemia, digestion extremely poor, and lost his teeth from decay at an early age. His whole appearance indicated a lowered and depressed vitality. Any physician on seeing him would express the opinion that his was a constitution possessing feeble resistance to disease. Inquiry into his family history elicited the following interesting facts: His grandmother was insane and died of phthisis, she had a sister also insane ; this grand-aunt had two children both of whom were insane. His grandmother had four children, viz., two males, one of whom had consumption, the other consumption and epilepsy, and two females, one of whom had consumption and the other, the mother of our patient, also had consumption. The patient, though delicate, has never devel-

oped phthisis, but at an early age developed a weakened and disordered mind. In this case we see phthisis and insanity existing at the same time in one individual: we see the phthisis transmitted through one entire generation, and then, after lying dormant, as it were, in the race for a long period, we see insanity reappear without the phthisis. Probably at this point the race is extinct, for I have many doubts if the patient possessed the procreative power. Returning to this grandmother's generation again, we find that she had an insane sister, and this sister had two insane children, and the line is extinct at that point. It is also interesting to note that in one of the patient's uncles epilepsy appeared in addition to phthisis, thus showing the close relation that exists between diseases which are the result of low vitality and unstable tissue growth. The one disease reäcts upon the other. Phthisis and insanity are both diseases of malnutrition: in both the great nervous centers are poorly nourished; and oftentimes one result of such defective nutrition is irregular and spasmodic action of these centers. Sometimes this is seen in marked and unusual eccentricity. The crank, so-called, is a type of this class. Again this unstable condition of the higher nerve centers is seen in hysteria, which condition often involves the motor center as well as the more purely intellectual centres, and then we have hystero-epilepsy. The same condition extended a little farther produces real epilepsy, as in this patient's uncle. He suffered from a poorly organized and feebly nurtured brain, as well as a delicate constitution, and, as a result, epilepsy and phthisis both appeared. Fortunately for the human race, nature by a wise provision allows this deterioration to go only about so far, and at a certain point stamps all such vitiated blood with sterility.

I have already said that we sometimes see two persons united, one of whom comes from a race containing a record of insanity, and the other from a race presenting a history of phthisis or other disease of low tissue change. From what we know of the laws of heredity we should infer that the issue from such unions would be unhealthy, that they would present either phthisis or insanity to a marked degree. The facts in the following case, taken from the hospital records, fully sustain our supposition:

Case II. A man fifty-eight years of age, a very active mer-

chant, broke down from overwork. He became depressed, and finally suicidal. He was possessed of an exceedingly nervous temperament and a very delicate constitution. He was asthmatic when well, but during the violence of his mental disturbance this neurosis disappeared. He presented the following family history: His maternal grandmother died of phthisis ; she had two children, a son who became insane, and a daughter (the mother of our patient), who possessed all the elements of the phthisical constitution, seeming to be continually on the verge of consumption, and in addition was an extremely nervous person. She married a man (the patient's father), who was asthmatic, who became insane, and finally died from some organic disease of the nervous system involving paralysis. These two persons had thirteen children, four of whom only are living. As far as could be ascertained, four died of phthisis, one was epileptic, and a sixth, our patient, became insane. What a commentary is this upon the inevitable working of the great law of heredity ! It shows us how surely nature places her seal upon whatever is faulty in the race, and protests against the continuance of diseased and unhealthy germs. Here is the record of the union of two diseased races, both of which should have been kept entirely separate ; one tainted with insanity, the other with phthisis. In the issue of such a union we see appear phthisis and insanity and also an allied neurosis epilepsy. Somewhat contrary to the usual law, the first result of such a marriage was remarkably prolific : thirteen children, and yet how soon nature set her veto against the continuance of such a race. Out of this large family of children only four are living, and of these four one has been twice insane, and is in constant danger of death from insanity or phthisis. Another interesting point was developed in this case : during the height of his mental alienation his habitual asthma disappeared, and as his mind regained its normal balance, the asthma reappeared. In this case the asthma was undoubtedly a pure neurosis, dependent upon a faulty nutrition of certain nervous centers. When this evil influence was transferred to the centers of ideation in the brain, the former neurosis subsided for awhile only to reappear as the cerebral irritation ceased. We thus see how closely related is brain disease and constitutional

weakness, — the two being so closely allied that the one condition may alternate with the other in the same individual.

The records of the hospital contain many illustrations of this. One patient, a man of delicate habit, a sufferer from hip disease in childhood, passed into an incipient phthisis in adult life; as a last resort he was sent to a warmer climate where he completely recovered from the lung disease, but shortly afterward succumbed to an attack of insanity, which at last account bade fair to merge into organic brain disease. Another patient, a young woman, ceased menstruating at the age of thirty, shortly after developed insanity, and remained in that condition for over a year. She then contracted pneumonia which passed into phthisis, and while in this state her mind recovered its normal balance, but it is evident that her lungs are hopelessly diseased. Still another case: a man of middle life, in whose family there had been a record of insanity, had for years been afflicted with asthma. His mind finally became deranged; he suffered from an exceedingly severe attack of mania, and was actively homicidal under the influence of his delusions. During the period of his insanity, which lasted over a year, he was entirely free from asthma; he made a good mental recovery, but it was remarkable to observe how each day of mental improvement was accompanied by increased difficulty of breathing. When he left the hospital he was perfectly well in mind, but was scarcely able to walk or lie down on account of excessive dyspnœa. His insanity never returned, but he died within two years of phthisis. The records are full of such cases as these, in which mental disease and constitutional or neurotic weaknesses of some sort seem to vie with each other for the supremacy in some one individual. I merely mention these three cases at the present time to illustrate how intimately related is insanity to constitutional disease, and how often we must look for the real causes sof insanity deep down in the very life-springs of the individual. The real cause of final mental disturbance in this or that person may be therefore incorporated in his very tissues, and increase with their growth. We often hear it asked of one who has become insane, "How could such an event have happened in Mr. A; he always seemed so well-balanced, his judgment so excellent, that he was the last person in whom I

should have looked for such an issue." The answer to this question is too often to be found in the long record of hereditary and constitutional weaknesses which do not at first sight appear. These factors have been silently at work, sapping and slowly exhausting his nervous system, until finally after some undue strain —a strain indeed which may have produced little or no effect on a constitutionally stronger individual—the crash comes, and in this especial instance it is the brain, and not the lungs or the knee-joint or the lymphatic glands that suffer.

We have seen how very intimately related are insanity and those diseases which proceed from states of constitutional weakness; how insanity, phthisis, epilepsy, hysteria, and other diseased conditions seem to become incorporated in the cell growth of the individual, and are then transmitted from parents to children. I now wish to call your attention to a remarkable case which illustrates the close relationship of insanity to cell growth and its variations, and which shows how a morbid element introduced into the cellular structure of an individual life may develop and be transmitted from generation to generation, and finally so modify and vitiate the original stock that it can scarcely be recognized.

Case III. A woman aged thirty-eight became feeble in health and finally depressed; at length delusion and typical suicidal melancholia developed itself. By referring to the family history we find the following facts which have been kindly furnished by one of your number. The maternal grandfather descended from old Puritan stock noted for its longevity; he himself and another brother attained the age of one hundred years. At eighteen years of age this grandfather contracted syphilis; he was very sick, and his health became much impaired; he had several attacks of corneitis which resulted in marked ulceration of cornea, and almost total destruction of eyesight. Notwithstanding the somewhat severe ravages made upon his system by this disease, his wonderful recuperative forces carried him to the advanced age of one hundred years and five months. He had eight children. No. one died from injury to head in childhood; Nos. two and three died young, and their history cannot be obtained; No. four, a female, died childless at seventy-eight years of age, of

malignant disease of breast and axilla; No. five, a male, eighty-four years of age, but has always been very feeble; No. six, a female, died of malignant disease of cervical and mammary regions; No. seven, a female, the mother of our patient, has had malignant disease of jaw and angle of mouth which has yielded to caustic treatment, and she is alive at present; No. eight, a female, is still living, but has carcinoma of face, and also of left breast. We observe that in this generation the members died somewhat younger, although the tendency to long life still persists; we also note a remarkable perversion of cell-growth in the tendency to malignant disease seen in four members. Now let us glance at the issue of this second generation; numbers five, six, seven, and eight, alone had children. No. five had three male children, viz., one male who had corneitis, and died of phthisis at forty years of age; another male who had recurrent chorea; and a third male who had chorea, and died of phthisis. No. six had two children, viz.: one female who was hysterical, then became epileptic, and finally died of encephaloid disease of ovary, at thirty-six years of age; one male who had chorea for years, and finally recovered. No. seven had three children, viz.: a female who had hysteria which merged into hystero-epilepsy, and finally into pure epilepsy, and who at last died at twenty-five years of age, of structural brain disease; another female who is living, but who has hysteria of a grave character; another female, the patient whom we have referred to as case three, and who was insane. No. eight had four children, viz., one male who died of phthisis at thirty years of age; one female who died of phthisis at twenty-one years of age; a second female who died of phthisis at twenty-five years of age; a third female who developed chorea at ten years of age, and then epilepsy; at thirteen years of age phthisis appeared, and she died at twenty-two years of age. We observe in this third generation that the original longevity has disappeared, and that a large number of the issue have died between twenty and thirty years of age; we also note that the general retrograde metamorphosis of cell structure has persisted, and instead of being confined to one or two types such as malignant disease and corneitis, we see that a more universal change has appeared,—a general constitutional deterioration has taken

place; not only special organs and tissues have become impaired, but a constitutional vice has become established which is undermining the nervous system as well as the physical health of the race. We see the corneitis reappear in one member, and malignant disease in another; but we also find phthisis in addition, and hysteria, chorea, epilepsy, and insanity. These last mentioned diseases show that the vitiated germs have appeared in the nervous system, and the usual results follow, viz.: irregular and incoördinated action of the nerve centres, producing hysteria and insanity in the intellectual tracts, chorea and epilepsy in the motor tracts, of the brain. We observe also, that this race is gradually becoming extinct. Formerly a hardy, intellectual, long-lived family, they have gradually deteriorated through three generations, until now all that represents this once sturdy Puritan ancestry are four females, two of whom have had malignant disease, one has grave hysteria, and the fourth has been insane; and two males, one a feeble old man eighty-four years of age, whose children are all dead, and one, who for years was subject to chorea.

It is a well-known fact that the virtues of the ancestors are often transmitted to the children, and that often certain especial qualities are transmitted,—thus, a talent for music and painting, and an aptitude for mechanical work, or mathematical skill, reappear in the children. It is also a fact that certain especial vices are transmitted, and that the identical manifestation of disease seen in the parents may reappear in their descendants. This is undoubtedly due to that natural tendency of the nervous system to develop a habit of action. Thus a patient who has once had mania is very likely to have a recurrence of the same, and it becomes very easy for the recurrence to become an established thing; so it is with suicidal melancholia. A marked periodicity of diseased action is very characteristic of neuroses of the brain. When certain morbid tendencies are once fairly established, it therefore becomes a very natural and easy thing for them not only to reappear in the individual, but for them to be transmitted to his descendants. This is perhaps the most striking feature of all the laws of heredity. It shows how close is the relation be-

tween the psychical and physical life of man. Certain developments of the cell structure of the brain are established; through this development peculiar traits of mind appear, so subtle and purely spiritual in their essence, that it seems hardly possible that they can have an organic origin. And yet so intimately related are they with the organized growth of the individual that they do not die when he dies, but reappear in the race which he has created. I will mention a case in illustration of this in which a tendency to suicide appeared in different generations and branches of one family. Some of the members of this family were insane and eccentric without being suicidal; but at a certain age there seemed to develop a disposition to suicide, which tendency was transmitted from parents to children.

The earliest progenitor in this family of whom we have any record was born in 1725. He married a woman who committed suicide. They had children, one of whom only has left any record; this was a male and was himself healthy. But he left five children, viz.: No. one, who committed suicide; No. two, who committed suicide; No. three, who was apparently healthy; No. four, who was insane; and No. five, who became insane. In this generation we see insanity or suicide appears in every member but one. Now let us see what appeared in their children. No. one, No. three, and No. four alone had children. No. one married and had one daughter, this daughter married and had one insane son. No. three had two children, one son who committed suicide, and one daughter who, though sane herself, had one son who committed suicide. No. four had four children whom we will designate A, B, C, and D. A was healthy, B committed suicide, C committed suicide, and D was insane. Now let us look at their children. A and D alone had children. A had four children whom we will call E, F, G, H. Of these E was mildly insane; F and G were very eccentric, so much so that many people called them insane; H was healthy, married well, and had a healthy child. This branch of the family therefore seems to be gradually freeing itself from the morbid tendency. D, who was insane, had one child who was also insane.

In this family as far as we can get at accurate record, there were in four generations, seven cases of suicide, and six cases of insanity

without suicide, and I am informed that there were several cases of suicide in the collateral branches of the family. Any commentary upon this remarkable race tendency is scarcely necessary. Certain morbid conditions of the nerve centers in the brain became established; and then for several successive generations these conditions were transmitted from parents to children. And so identical was the pathological state in all the individuals of this race that in the majority of cases precisely the same manifestations of disease appeared.

It is hardly necessary to mention any more individual cases, although the records of our own state hospital and many other similar institutions contain hosts of cases of like character. Now what are we to infer from such abundant records? It seems to me simply this: That insanity is a disease of disordered and deteriorated nutrition of the brain, and that this condition and the tendency to it can be transmitted from parents to children. It is well understood that in the animal economy cell structure tends to repeat itself: certain well-established forms of cell-growth reappear in the descendants from the original stock. It is in this way that certain configurations of the face and body reappear in members of the same family. The same law undoubtedly obtains in the more intricate structure and development of the nervous system. On no other basis can we account for identically the same traits of character, moral and psychical, reappearing in successive members of the same family.

Now if a healthy and well-developed cell structure is transmitted, it follows that a perverted and ill-nurtured cell structure must be repeated in the offspring. Among the lower orders of animals, breeders thoroughly understand this law, and are governed by it; they select only the healthiest types, and propagate a sound and healthy stock from them. In the human race the same law exists, but as little or no selection is practiced, we do not always reach the same results. Mind disease is brain disease; and a poorly nourished and poorly organized cerebral development is sure to lead to weakened and perverted state of mind, and this is only another name for insanity. The conditions of insanity, therefore, exist in the cell-structure of the brain; and this peculiar structure, whether it is the result of a malforma-

tion of cell-growth (in the same way that we can have a club-foot or a hare-lip), or whether it is the result of a vitiated and deteriorated state of the blood, this peculiar brain structure can be transmitted.

The records of our state hospital show that about fifty-one per cent of the cases admitted are referable to a vicious inheritance. Fully another twenty-five per cent are undoubtedly due to the same cause, but their family history cannot be ascertained. The remaining twenty-five per cent cannot be traced to any form of hereditary cause. These latter cases are generally acute in character, and consist for the most part of attacks of acute mania, melancholia, and melancholia with stupor or acute dementia. These comprise as a rule those cases which terminate favorably, and form the majority of the thirty-three per cent of curable insanity. Insanity may, like any other acute disease, as pneumonia, or pleurisy, attack a perfectly healthy individual,—one in whom there is no previous record of scrofula, phthisis, intemperance, or any other depressing constitutional taint. Such a person under proper care and treatment generally recovers, unless exhausted with severity of the attack. And I think that carefully collected records would show that such cases recover as frequently as do other acute diseases occurring in otherwise healthy individuals.

If, then, nearly seventy-five per cent of the prevailing insanity of the present day is traceable to an hereditary constitutional taint of some kind; if generations of phthisis, scrofula, intemperance, and other depressing causes in the ancestry, have so deteriorated the blood and weakened the normal energy and equilibrium of the nervous system that insanity is a possible result in the descendants, what is to be done in the way of prevention? Many pessimistic writers might say, "Nothing can be done to prevent the inevitable;" and so would hold an altogether discouraging view as to the possibility of the prevention of the increase of mental disease. But it seems to me that it is possible to do something in the way of intelligent prophylaxis.

Of course the most obvious method of prevention would be the prohibition of the union of two unhealthy individuals. But it is also equally obvious that such a variety of artificial selection

in members of the human family is not attainable, at least in the present social status of the world. The passions and sentiments of the human mind far outweigh any physiological considerations that might be brought to bear against them. Admitting, then, the fact that unhealthy individuals will come together, and that deteriorated bodies and brains will be propagated as a result, what can be done to prevent the appearance of insanity?

In the first place it is necessary to premise our inquiry with the statement that insanity *per se* is not necessarily transmitted. The predisposition only may be perpetuated; the soil for its development may exist, but not necessarily so the disease. Herein lies our strong hope. Knowing the previous family record of the individual and his present constitutional temperament, we can so guide and warn him, can so surround him with favorable environments, and so repair a lowered vitality that we may avert an actual disease of the mind. We know the weak point, and we can fortify it against the disease itself. This is nothing more than the intelligent practitioner does in the case of other threatened disease. He gives the person threatened with phthisis tonics and fats, and sends him to a warmer climate; the rheumatically inclined person he bids dress warmer, avoid damp and wet and cold; to him whose grandfather suffered with gout, irritable temper and a cane, he prescribes a nutritious but non-stimulating diet.

In a very interesting and instructive book on "Insanity and its Prevention" Dr. Tuke says:

"If it is disheartening to know that, while some men are proof against the invasion of this calamity, whatever folly they may choose to commit, others have the seeds of insanity sown in their nervous system, only awaiting a favorable exciting cause to make them germinate, it is none the less but all the more important that we should know what are the circumstances, what the conditions, calculated to stir up the slumbering embers into flames. There can be no doubt that, given in two cases precisely the same predisposition to insanity, the disease might in one case be kindled by an unwise, or averted in the other case by a wise, mode of life based on the principles I have endeavored to lay down. To this extent then, insanity is a preventable disease.

Looking at the cases I have known, and regarding the causation of their attacks from this point of view,—their preventability,—I can see a large number, who, under more favorable circumstances and a brighter sky, under judicious mental training, under a calm and regular, instead of an irritating life, or free from habits and associations of a certain kind, might have escaped the perils of their unfortunate mental heritage.

I have seen this predisposition lighted up by speculation and consequent pecuniary losses and bankruptcy, by the misery of a homeless home, by a drunken wife, by the complete absorption of the affections in a child, and that child dying, by a course of excessive study accompanied by competition for honors, by evil habits, and by many circumstances, the avoidance of which would have left a fair chance of escape from an attack of insanity, had these individuals, conscious of the dangers into which they, with their proclivities, were running, shunned them.

Familiar, therefore, with the physiognomy of temperaments, the physician accustomed to observe their relation to mental disorder will not fail seriously to warn those who possess them, whether they betray signs of actually passing over the boundary line of sanity or not, to guard in an especial manner against over-excitement in some instances, much study in others, overstrain in all. He will often readily recognize the die in which this or that person is cast, and detect the peculiar mark on the metal, which the unskilled or unobservant fail to notice. He sees a combination, a grouping of mental and physical characteristics which experience tells him are apt to to be associated with certain tendencies, only awaiting a sufficiently exciting cause to develop them, be it the exclusive search after gain, the indulgence in drink, and other passions, or in the absence of rational and healthy occupation."

This, then, is the conclusion at which we arrive: First, insanity is, in the majority of cases, a disease resulting from certain pre-established family conditions, certain proclivities and tendencies which operate as predisposing causes. Secondly, insanity is a preventable disease in just so far as we can remove these predisposing causes, or by a previous knowledge of their existence we can guide and warn the individual of impending dangers.

Dr. Roberts of Wakefield: — It has been my fortune to be placed where I have been obliged to study that subject, and I fully agree with Dr. Bancroft in his estimate of the percentage of cases that are due to hereditary causes. I do not know of a case within my knowledge which I cannot trace to the parents, grandparents or some ancestor, only the exciting cause being necessary; and one of the exciting causes, for which physicians are to an extent responsible, is the cramming of our girls in the public schools.

Prof. Frost of Hanover: — I wish to express my great interest in the paper we have had, and, especially, because it shows the relationship of those associate diseases, epilepsy, hysteria, and chorea to insanity, which I think have not been very distinctly brought out as producing causes in our works upon insanity. I think it is a valuable addition to our knowledge on the subject.

SURGICAL CLEANLINESS.

BY CHARLES R. WALKER, M. D., CONCORD, N. H.

Public opinion is like a mighty pendulum slowly swinging to and fro. We see it in every phase of life. To-day, in many instances, we demonstrate as untenable the fixed facts of our forefathers. The hot, thirsting, fever-stricken wretch has slowly but surely swung out of the stifling atmosphere of his closed room into the well ventilated apartment of to-day, where he is freely allowed with water to cool his parched lips and throat. Down the arc of the last half century rushed a mighty sanguineous flood, bearing on its bosom the keen little pocket lance, the cure-all for every disease that man was heir to. Gradually in the light of modern experience its volume grew smaller and smaller, till now but a tiny stream trickles along the upward curve.

Billroth, years ago, recognized "that phlegmonous and febrile symptoms, after all forms of injury, are due to the absorption of substances formed by chemical changes taking place in inflamed tissue." But the idea fell still-born on the surgical world. His discovery was of no practical use to mankind. Hospitals went on breeding choice strains of bacteria. They colonized under the finger nails of the surgeon and nurse, perched on the back of scalpels, hibernated in the teeth of the forceps, wormed themselves through the useless dressings, tumbled in swarms into the defenceless wounds, and sealed the fate of almost every victim of a capital operation in the dirty, crowded, ill-ventilated wards of the most famous institutions in Europe. 'Twas left for Lister to grasp the situation, raise the ball of surgical cleanliness from its bed of surgical filth, purify it with antiseptics and set it swinging with a power that the most obstinate unbeliever cannot stop.

In the summer of 1879, I had the honor to be your delegate at the International Medical Congress at Amsterdam. It had been announced that on a certain morning Mr. Lister would read a paper explaining his views on antiseptic surgery. The hall of the surgical section was crowded. As he came slowly forward a sudden silence fell on the assembly. Gradually one by one seemed to realize that there before them stood the sturdy Scotchman who had popularized ideas more important to suffering humanity than any discovery since ether. Gradually grew the murmur of applause, till, like a torrent suddenly let loose, as with one accord, the whole assembly—the foremost surgeons of the world—leaped to their feet and cheered to the echo this modest man. When order was restored, he delivered his well known ideas on surgical dressings. He demanded of the surgeon absolute cleanliness of person, cleanliness only obtainable by a vigorous use of the nail brush and carbolized water; cleanliness of instruments, to be made doubly sure by constant soaking in an antiseptic solution during the the operation. He claimed that the surgeon should work with the wound enveloped in a carbolized spray, and finally, after using catgut ligatures, that dressings of carbolized gauze should be applied.

To day the one question most discussed, most thought of, most experimented upon by thinking surgeons, the world over, is the best use of antiseptics. Lister's method has been curtailed, modified, indeed in some instances every limb, so to speak, has suffered high amputation; but the grand trunk, the vital principle, still lives, still is acknowledged, that in some way, some how, by some means, it matters not what, wounds must be kept from first to last surgically clean if we would hope to have the healing process go on in that ideal way by first intention.

That cute little machine with its steam boiler, alcohol lamp, nozzles swinging on universal joints that always leaked or else refused to move, its safety-valve and wire-cloth covering about the flame, lest the inflammable ether should leap into it like the dreaded fire damp in the mines—the famous atomizer, hissing out its chilling, numbing, kidney-affecting spray,—has to-day been to a great extent abandoned as unnecessary. From experiments made in Vienna, it was found ye bacteria was not the weakling he

had been been considered to be. That he was by no means deprived of his evil propensities when caught momentarily in an attenuated atmosphere of carbolic acid. Furthermore, by filling the air with powdered charcoal and starting the spray, it was found that a perceptible increase of dust was precipitated over what would have fallen by gravity alone on the same extent of surface. The germs unaffected were hurled in increased quantities by the spray into the wounds. The atomizer must be a positive source of danger rather than help to the surgeon. So reasoned Billroth, as he hung in his operating theatre near the ceiling a tin of carbolized water, connected with it a rubber tube, and at frequent intervals during an operation had the wound irrigated with the solution. He obtained results even better than with the spray. Practice for once joined hands with theory. "Fort mit dem spray" was the cry, and these costly toys were banished from the operating room.

The experiments of Mr. John Duncan of Edinburgh are of interest in this connection, for they are additional evidence, which justifies us in abandoning the use of the spray, and by so doing enables one to feel it possible in nearly every case, even with the inadequate material in the hands of the ordinary surgeon, to render a wound aseptic. Weak solutions of Darby's fluid meat were first rendered aseptic. These were then exposed varying lengths of time, half the number freely to the air, the rest under tbe protecting influence of the spray. I will not weary you with details accessible to every one, but in summing up his results, Duncan says: "These experiments seem to me definitely to prove that, so far as the destruction of floating germs in the air is concerned, the spray is perfectly ineffectual. It can be of little value in such operations as those which deal with deep cavities. Nay, I should think it likely to prove more injurious than beneficial in such cases." But these same experiments also show that the risk of contamination from the air has been greatly exaggerated. "The conclusion evidently is that in the matter of wounds our aim ought to be the attainment of the most absolute purity in all substances brought into actual contact with them, while the rare contamination which may come through the air is guarded against by washing with antiseptic solutions, or by giving the

germicide powers of the living textures a fair opportunity of coming into play."

I do not mean to convey the idea that to-day the spray is totally banished, but even among its stanchest advocates it no longer occupies the position of importance that it once held. Mr. Keith in a published letter wrote, "I said that for some time I had given up the carbolic spray in abdominal surgery, as being unnecessary and sometimes dangerous." Dr. John Homans, in a lecture delivered not long since at the Harvard Medical School, said, "I always use the spray. I do *not* believe spray is absolutely essential, but I have had very good success with it, and have never known that it has done any harm." Mr. Lister says, "I have not given up the use of the spray, although I certainly regard it as the least important of our antiseptic arrangements." In the hospitals of our own country, so far as I can learn, it is now the exception rather than the rule.

In country practice, handicapped as one necessarily is by the paucity in numbers and skill of his assistants, I think you will agree with me, that the proper, efficient use of the steam atomizer is impracticable; and furthermore that the arguments for and against its employment justify us in relying on thorough irrigation of the wound to keep it aseptic so far as contamination from the atmosphere is concerned. The question of the best antiseptic is still *sub judice*. Carbolic acid retains an easy lead with surgeons in general, while hospital men are demonstrating the utility and special advantages of bichloride of mercury, salicylic and boracid acid, iodoform, bismuth and a host of other substances. Each has its advocates, each its dangers. For general use either the carbolic or bichloride solution seems all sufficient.

Iodoform is much lauded for every class of injuries, but is specially useful in wounds about the orifices of the body which are notoriously difficult to keep aseptic. Also in gangrenous or septic wounds, the use of this drug removes all odor and promotes rapid repair. In this connection it may be of interest to give Mikulicz's statement, that "the smell of the drug can be overcome by adding one minim bergamot to ten grains of the iodoform, or moistening with an ethereal or alcoholic extract of Tonquin bean." Local irritation can be effectually prevented

by previously oiling the sound skin when the iodoform is to be applied.

The materials used in dressing are quite as numerous as the substances that render them antiseptic. There is an endless list of gauzes, cotton is treated in various ways, while saw-dust, peat, and a host of other substances, whose absorbent properties have recommended them, are now on trial. But carbolized gauze we all know ceases in a short time to be antiseptic through evaporation; bichloride of mercury changes to calomel, though an addition of salt is said to prevent it; peat is full of germs, and yet they all have and do produce results, if used in conjunction with other antiseptic precautions, far superior to the dressings in vogue fifteen years ago.

Is it to be wondered at, therefore, that to-day many are ready to say with Stimson, "There are many things in antiseptic dressings besides the antiseptics, and he believed that the good results which have unquestionably followed the use of these dressings were due to these other properties, quite as much as to the prevention of putrefaction."

What on the whole is the most feasible material for us to use, who cannot always obtain these various prepared dressings in use in large cities? I am free to confess that I think if the wound is surgically clean, thickly covered with carbolized or even ordinary absorbent cotton properly applied, the country surgeon may hope with the advantage of pure air in his favor, to produce statistics equal in every way to those obtained in cities.

One condition in this statement I feel should be emphasized. Upon it depends all that was good in the old, and much of the good ascribed to the new methods. I mean an intelligent application of the inside of the bandage, so as to ensure free drainage, perfect rest and equal compression.

The subject of drainage is so self-evident, that it hardly seems necessary to do more than allude to it. That it has been overdone is a fact in many cases, but that in deep wounds it materially aids in keeping the healing surfaces free from, and prevents the pocketing of, discharges, all must admit. The danger, if we may term it so, is in allowing the tube to remain too long, so that it in reality becomes a foreign body. Glass, bone, rubber, horse-

hair, and catgut are all in common use. Both rubber and horsehair are always at our command and fulfill all common needs.

Just here let me say a word on one interpretation of cleanliness, that seems to me all-important, but which, however, is too often at the operating table ignored. We often speak of a carpenter or machinist as a clean workman in the sense of nicety of execution and strict attention to detail. You who have ever tried to glue two boards together, know how absolutely necessary it is, in order to produce a firm, strong joint, that the two surfaces to be joined should be smooth, parallel, firmly pressed one upon the other, and immovably held till the glue sets. Nothing but an evenly spread, thin layer of the glue must lie between. The least particle of dirt, a shaving, any foreign material, always weakens and often renders our work a failure.

Recklinghausen in teaching the details of post mortem work, is continually crying out, "schneiden, schneiden, nicht drucken," cut, cut, don't press. Crowding a knife, especially a small one, through a flap, leaves a wound filled with shreds partially attached, and as a rule deprived of a sufficient blood supply. These, sloughing, act like any other foreign body in preventing perfect coaptation of the parts. Let us not think because we are surgeons, we can violate the inflexible laws of mechanics. We must approximate as nearly as possible two plane surfaces. Don't make your stump look as if it had been felled by an ax.

In surgical dressings bandages take the place of the clamps in the hands of the carpenter. Upon them we rely for compression and coaptation. In too many cases this idea has no practical recognition—judgment is passed on the external appearance rather than on the internal arrangement of the dressing. Absolute immobility of the cut surfaces, one upon the other, should be aimed at after all operations. This, one can usually accomplish by means of carefully applied compresses and bandages. In the simplest wound this idea of accurate adjustment plays an important part.

This reminds me of an elderly lady I once met. She had a severe cut on one of her thumbs, and my attention was attracted by a black line that wound in cork-screw fashion through the light scab covering the injury. On inquiry, I learned that all

cuts in her family she was in the habit of treating by bringing the edges accurately together and then sewing through and through the epidermis with a very fine needle—in fact making a continuous suture. This was the only dressing, and she claimed always a perfect result.

Now this question of fixation is well shown by a case that certainly brought it very forcibly to my mind. Billroth had removed a tumor from the side of the neck, one of the worst places on the whole body to obtain first intention. First, the ordinary compresses and dressings were applied, then he surrounded the neck with an enormously thick cravat of gauze, that effectually prevented any motion forward and back, while innumerable bandages about the head and shoulders deprived the patient of rotatory power. The cut surfaces were in apposition and kept there. The advantages of such a dressing is self-evident.

One thing we must bear in mind else we may upbraid ourselves at results in no way due to neglect or ignorance. In large wounds, in approximating the surfaces we no longer have muscle opposed to muscle, tendon to tendon, fat to fat, but each in apposition to tissues of another kind. Such being the case, it is unfair to expect that any dressing will invariably produce primary union.

No one has put this question of accuracy in bandaging so happily as Gamgee: "Of all surgical agencies, none so beneficent as compression; none requiring more delicate manipulation; none so inadequately appreciated. Under a smooth and uniformly, while lightly, compressing bandage extravasations of blood are absorbed, the healing action is promoted, and a soothing influence is exercised. There must be no constriction—only equal adaptation of surface to surface, with the light pressure that always comforts. There must be no squeezing like that of an old college friend's hand when seen after a long absence; such pressure as that if continued is intolerable constriction. The soothing surgical pressure is like that which you interchange with the hand of a lady, the pleasure of whose meeting is tempered by the respectful regard which she inspires. Your hand adapts itself to hers—and gently presses it wherever it can touch it, but nowhere squeezes it for fear of offending. Such pressure as that

when employed by the surgeon in the treatment of injuries, always soothes and heals." Once an operation is done and the wound dressed, help to keep it surgically clean by letting it severely alone till there is some real indication to show a necessity of a change.

My first surgical case was a boy with a cut thumb. It did not heal readily, in fact for some days did not heal at all. Finally one morning the boy in evident disgust at my skill, burst out with, " Doctor, 'tain't gitting a bit better. I pull that cut open every mornin, and look way in, but it don't git no better." The little fool, did you say? Have a care lest your remark prove a boomerang. How many cases are daily syringed and soaked and probed with martial regularity, regardless of constitutional conditions or actual necessity of change. Time is no criterion to judge by. Let well enough alone is a golden rule which, remembered or forgotten, makes or mars many a surgical reputation.

Antiseptics have shown that frequent dressings are unnecessary, useless, and often positively injurious. Their employment has bolstered our courage to a point where we feel that the thermometer and general condition of the patient should govern our treatment. Amputations frequently have healed under one or two dressings. Even with the means, often imperfect, at the command of a surgeon called in an emergency, I confidently assert that most brilliant and unlooked-for results would be produced if the dressing was allowed to remain until the laws governing in strict antisepticism should demand its removal.

I have purposely directed your attention to this all-important subject only in a general way. The latest details and theories will be given you more fully and clearly than I could hope to do, by Dr. Otis in his report on surgery. I have to emphasize a few cardinal points, which all must admit, but do not always, perhaps through laziness, put in practice.

As a duty we owe our patients, and in justice to ourselves, we should always have surgically clean hands, surgically clean instruments, surgically clean surroundings. We should apply, in such quantities that no ordinary discharge can work through it, the best surgically clean absorbent material at hand as a dressing. We should see that coaptation of the cut surfaces is brought

about by proper bandaging, and then by absolute rest of the parts give Nature, before whom the skill of the mightiest surgeon sinks into insignificance, a chance to bring about those results which we in our conceit and injustice too often claim as *our* handiwork.

REPORT ON SURGERY.

[The present status and methods of the antiseptic treatment, and notes upon some recen advances in surgery.]

EDWARD O. OTIS, M. D.

Fellows of the New Hampshire Medical Society:

The first subject to which I wish to ask your attention in this report is that of the present status and methods of the "Antiseptic" treatment of wounds. As I desire to make this paper as practical as possible, I do not propose to enter into any discussion of the germ theory. As Mr. Lister well said in one of his papers* last year: "We do not require any scientific theory in order to believe in antiseptic treatment. You need not believe in the germ theory at all; if you are not convinced of the truth of the germ theory of putrefaction and of septic agencies generally, no matter whatsoever. With reference to antiseptic practice, all you have to believe is that there are such things as putrefaction and other septic agencies, that our wounds are liable to these, that they are very pernicious, that these things come from without, and that we have the means of preventing them by various chemical agencies. That is all that we require, and I think that anybody who knows the present state of surgical practice must admit these to be truisms."

In general you are familiar with the technique of the antiseptic methods in operations, and the treatment of wounds, and of the different antiseptic materials which are used in the dressings. I wish, however, to emphasize certain points, and to speak of certain precautions and improved methods in the treatment which time and experience have taught. First, the spray has been to a great extent discarded, and irrigation with an anti-

*The "Lancet," November 3, 1883.

septic fluid substituted. On this point, the founder of the system, Mr. Lister, says:* "I have long since held and taught that of all the parts of the antiseptic system the spray is the least important. It would not at all break my heart if I were told that I should never be allowed to use the spray again in my life. I am satisfied I could, by other means, get essentially the same results."

Dr. Homans in a recent lecture upon Ovariotomy† also says: "I do not believe that the spray is absolutely essential, but I have had very good success with it, and have never known that it has done any harm."

Next with regard to the antiseptics at present used, and which seem to be giving the best results both as regards their efficacy and their innocuousness to the tissues. The bichloride of mercury (corrosive sublimate) seems to be the most universally used of any one antiseptic. It is the popular antiseptic in the New York hospitals, and is used there in the proportion of one part of the bichloride to fifteen hundred or two thousand parts of water; for disinfecting wounds chronically or accutely inflamed it is used in a stronger solution, one to five hundred. Carbolic acid comes next. One per cent solution for cleaning the vicinity of the wound after an operation, three per cent solution for disinfecting instruments, five per cent solution for spray when used and for disinfecting the hands, two and one-half per cent solution for irrigating the wound after and during operation. Iodoform is another very extensively used antiseptic, both in the powder and as iodoform gauze, particularly serviceable in wounds of the mouth and anus, and in open wounds and suppurating cavities, as in operations for caries and necrosis. Naphthalin is also used as a substitute for iodoform. An eight per cent solution of chloride of zinc is used in Esmarch's‡ Clinic for disinfecting foul and suppurating wounds, and at the close of all operation, upon tissues septically infected. Esmarch also uses a boro-salicylic acid solution [one part salicylic acid, six parts boracic acid to five hundred parts of water] for irrigating the wound during operation. We have also salicylic and boracic cotton.

* British "Medical Journal," February 23, 1884.
† Boston "Medical and Surgical Journal," April 10, 1884.
‡ Neuber-Antiseptischen Wundhehandlung und des Dauerverbandes.—Kiel, 1883.

In the matter of material for the antiseptic bandage, the carbolic, bichloride, and iodoform gauzes are perhaps the most extensively used. In Germany peat and moss, antiseptically prepared, in the form of bolsters of different sizes and shapes, have been used with great success; they are both cheap and very absorbent. The cardinal principles in the antiseptic treatment are that scrupulous care should be taken in staying all hemorrhage, in making the wound dry before applying the bandage, and in keeping it dry afterwards by proper and efficient drainage. To accomplish the latter, drainage tubes are most commonly used, either of rubber or of some absorbable material. Neuber uses decalcified bone tubes with success. He says they are not so irritating, and have the great advantage of being gradually absorbed like the catgut ligature. The same author also makes use of a form of drainage, which he calls skin and muscle canalization, for wounds which are not deep, either subcutaneous or under a superficial muscle. In the former case a hole is simply punched through the skin, and in the latter a hole is made through both skin and muscle, and the skin is pressed down over the muscle and fastened at the lowest point with a bit of catgut, thus forming a canal.

As experience in the antiseptic system accumulates, it has been found that the primary bandage can be allowed to remain undisturbed longer than was at first supposed, depending upon the thoroughness with which the previous steps in the treatment have been carried out. As a striking illustration both of this and of the wonderful advantages of the antiseptic treatment in general, I will give some of Neuber's exceedingly interesting statistics, which he gives in his recent brochure upon the antiseptic handling of wounds and the "Dauerverband" — the lasting bandage — as he calls it. In a series of fifty-five cases of removal of the breast for malignant disease, in forty-seven of which the axilla was opened and cleared of enlarged glands, the primary dressing remained undisturbed in thirty-nine of these cases until perfect or nearly perfect healing was obtained. Who would not take the extra trouble of the antiseptic precautions, both in operation and dressing, if, in consequence, only a single dressing was necessary for such a severe and large wound as that resulting from the removal of the breast? In forty of these fifty-five cases the

average duration of treatment until they left the hospital well, or nearly well, was twenty-three days. In thirty-nine the course of the healing of the wound was normal, without suppuration. The average time of healing of the whole fifty-five cases was twenty-two and one-half days, and all recovered.

Again, in forty-one cases of extirpation of swellings of the neck, probably most of them enlarged glands, thirty-five healed normally, without suppuration. In thirty-eight, the average time the first bandage remained untouched was 12.6 days. The average time of the entire treatment of the wound for the whole forty-one cases was 17.7 days.

In forty-nine cases of resection of the knee joint, thirty-nine of which were from chronic disease, the primary bandage remained untouched in twenty-four until they were quite or nearly healed. All recovered but one. In thirty-nine cases the average time the primary bandage remained on was twenty-seven days. Thirty-five cases healed normally, without suppuration.

It may be well here to give Neuber's indications for changing the bandage. It should be changed when the general condition and temperature of the patient is such that there is present the possibility of a serious infection. It must also be changed when in the neighborhood of the wound a noticeably unpleasant odor is perceived. It is not to be changed if it simply becomes wet through by the discharge; only fresh antiseptic material is to be applied over the bandage. If the bandage becomes soiled externally, the soiled outer layers are to be removed and fresh ones applied. The antiseptic material must extend beyond the wound in all directions, and must be carefully and thoroughly bound on, so that the wound is perfectly sealed from the outside air.

As another striking illustration of the Dauerverband and of the antiseptic treatment, I will give the method of treating buboes as described by O. Peterson in the Centralblatt für Chirugie of Nov. 17, 1883. After fluctuation is determined, a free incision is made, and the cavity of the abscess is cleaned out with a sharp spoon. The hemorrhage is stopped and iodoform powder applied. Then comes the bandage, which is applied with considerable pressure and which Peterson calls the pressure bandage.

First a ball or wad of salicylic cotton, or some soft, pliable material made antiseptic with salicylic acid, is formed of the size of the cavity and placed over it; upon this wad are placed several layers of the same material, then a second ball or wad of tow or oakum, and about four times as large as the first, is placed over this. Then comes oil silk or wax paper, and the whole is firmly fastened with a gauze or elastic bandage. This dressing remains unmolested, as a rule, from seven to ten days. In a trial of this method for three years the average time of healing was twenty-three days, while previously the average time was from seventy to ninety days. Twenty per cent of the cases healed under one bandage, twenty-five per cent under two, twenty per cent under three, and more than seven bandages were in no case necessary. The average number of dressings in each case was two. I will note here, in passing, Neuber's treatment of abscesses, which is to fully incise them, disinfect them, put in a drainage tube, and apply an antiseptic dressing. Let me here also cite the essential factors necessary for the success of the Dauerverband, as Neuber gives them in his introduction; they are—thorough and complete staying of the hemorrhage, ample antisepsis, sufficient pressure, free drainage, good absorbing bandage material, and absorbable material as far as possible for ligatures and drainage tubes.

This subject of the Dauerverband naturally brings me to the next point in the treatment of wounds of which I wish to speak, namely, that of rest and immobilization, conditions absolutely essential to the success of the antiseptic treatment. Cheyne none too emphatically expresses himself when he says in his work on antiseptic surgery, "The whole principles of wound treatment may be summed up in the one word *rest*;" and again, "The ideal wound is a subcutaneous one kept at perfect rest." John Hunter, long before Lister's day, also wrote, "The first and great requisite for the restoration of injured parts is rest;" and Dr. John Lowe, in an article on the germ theory of disease in the British Medical Journal of July 14, 1883, says: "Whatever hinders motion retards germ action, and so we are brought to see the force of those admirable lectures of the late Mr. Hilton, on the value of rest in surgical treatment. If anything in the world is antiseptic it is rest."

Mr. Gamgee of Birmingham, in his recent work* on the treatment of fractures and wounds, has admirably shown by numerous cases the wonderful results of this cardinal principle, though apparently he is not a strict disciple of Mr. Lister. He rests his treatment upon the tripod of immobility, infrequent dressings, and compression, and the clinical cases he cites, illustrative of these principles, are well worthy of careful study and consideration. Just here I would emphasize the great importance, if one would succeed in infrequent dressings, of thoroughness in the first instance—with the first dressing. One must become absolute master of the wound to begin with; examine and probe until he is satisfied of the extent and condition; know all there is to be known about it by careful, minute examination; then having made it absolutely and thoroughly clean and dry, he can, with high hopes of success, build upon the tripod. After you have once applied your bandage you do not wish to be harassed with doubt as to some point which you did not make yourself sure of at the start, and to decide which you may be constrained to disturb the wound at an early date. Mr. Gamgee, though from a somewhat different standpoint than that of Neuber, still, however, arrives at the same results practically, and recognizes the same indications for changing the dressings. He says: "The surgeon's chief guides must be the patient's countenance, attitude and feelings; the condition of the tongue, skin, bowels, and kidneys; the pulse and respiration ratio;" and again: "If the signs of constitutional tranquillity be altogether satisfactory, I attach very little, indeed scarcely any, importance to the permeation of discharge. If it be reddish soon after an injury or operation, we know that bloody serosity soon dries by evaporation through our absorbent dressings. * * * The dressing thus dried after permeation may be left for days if the thermometric and other signs permit. * * * If instead of being permeated by sanguineous serum, the dressings be stained by a purulent fluid, the time for change will come sooner."

The ingenuity and experience of the surgeon must in each case determine how immobilization, rest, and pressure can best be obtained. The materials for immobilization are, as you know,

*On the Treatment of Wounds and Fractures. — S. Gamgee, 1883.

almost innumerable. Mr. Gamgee, for instance, uses what he calls millboard—our thick binder's pasteboard—as his favorite method, applied or fortified with starch, gum or dextrine, and by means of moisture bends and moulds it in any shape required. As his favorite means of applying dry compression he uses his "absorbent cotton-wool tissue" a specimen of which, through the kindness of the manufacturers, I have here. Plaster of Paris is very universally used for this purpose, and doubtless you are well acquainted with the different modes of application. I will briefly, however, refer to two methods of use which seem to me to be of especial value, both from the ease with which they are made and their readiness of application. First, a method of applying plaster for fractures of the leg, a method which originated two or three years ago at the City Hospital in Boston. The material used as the basis of the splint is stiff muslin gauze—crinoline. A piece of the gauze is placed beneath the bare leg, reaching from the knee to a point about ten or twelve inches below the heel, and sufficiently wide to encircle the calf. Upon this gauze one marks out a pattern so large that it shall cover the posterior two-thirds of the leg. Place the pattern upon six or eight layers of the same material and cut them altogether. The limb is prepared for the plaster bandage, by being bandaged with cotton wadding, or cotton flannel, evenly and thickly. The plaster is mixed with warm water into a smooth cream, and with the hand spread upon the pieces of gauze, one layer after another, until they all form one soft, flexible mass. This is placed under the limb and applied to it firmly by a roller bandage, the fragments being held in position for about ten minutes, when the plaster will have become hard. If an anterior splint is necessary, six or eight straight pieces of gauze may be taken and spread with plaster as before, and applied to the anterior aspect of the leg. In a few hours one can remove the cotton roller bandage from the posterior splint, and the wadding can be cut up with scissors so that the leg may be exposed to view.

The second method is a handy one for making plaster of Paris splints for various purposes, fractures of the arm, leg, etc., and for it I am indebted to my brother, Dr. H. S. Otis, of Hartford, formerly house surgeon at the Hartford hospital. The basis is

cotton wadding, cut in such shape as you desire your plaster splint, but an inch and a half wider and three inches longer. Lay this on the table, take a roller bandage which has previously been impregnated with plaster of Paris, soak it as usual in using it for any purpose, and lay it on the cotton, running it backward and forward until you make about ten thicknesses, rubbing in plaster from time to time, and using extra water also, if necessary, by dipping your hands in the pail. A margin must be left on all sides of the cotton, and if the bandage is too narrow to make one width go, two or more can be used, each one lapping a little over the other. Having made the bandage or splint as quickly as possible, you have a plastic, adaptable apparatus, which can be used like leather or felt, and moulded to the limb to which it is to be applied, and which hardens quickly. The cotton on which the plaster bandage was laid is the padding. The splint is to be fastened with a roller, and after it has set, can be removed and re-applied like any splint. The advantage of such a splint is that it fits the part perfectly, and costs next to nothing. When lateral splints for the leg are required, for instance, this form is very serviceable.

Mr. Gamgee mentions a ready and ingenious method of making a small splint for fingers by using a half sheet of ordinary note paper. It is gummed on one side, and then folded over and over to the width of the finger until exhausted. After being moulded accurately to the finger it is placed on a plate and hardened by putting it in the kitchen oven for a few minutes.

A striking illustration, in a small way, of this matter of rest and infrequent dressings occurred in my practice some little while ago. It was in the case of two scalp wounds in boys. One I saw at night rather hurriedly, and advised a moist dressing, which was changed frequently, and the wound washed each time; it suppurated and healed slowly in two or three weeks by granulation. The other was rather a more serious, ragged cut from a stone. After carefully making it clean and dry, I applied a pad of several thicknesses of carbolic gauze, and a light bandage, with directions not to touch it unless there was pain or discharge. The pad was not disturbed for four or five days, and when it did come off the wound was healed. No loss of time

was incurred as in the former case; there was no pain and no discharge.

I wish to call your attention for a moment to the matter of attending to injuries of the parturient tract; and if in this case the attending physician would take a surgical view of the situation, I think there would be far less after trouble from damaged vaginæ and perinea. The injury which for the most part is the only one requiring immediate aid is a rupture of the perineum, and whether it be slight or severe, I emphatically believe it should be attended to immediately. The parts are little sensitive at that time, and the wound is fresh; and if the operation is done with ordinary care, lack of union is the exception. The patient, if possible, should be placed upon a table and a good light obtained. A sponge or some absorbent material should be placed in the vagina behind the tear to catch the blood and discharges and prevent their obscuring the view. Several deep sutures should be taken if the rent is at all large, carbolic silk, carbolic catgut or silver wire being used; if the latter, the ends should be guarded by a piece of rubber tubing to prevent them from irritating the parts about. The wound should be protected from the discharge by a wad of boracic cotton, iodoform or sublimate gauze placed internally, and by an antiseptic pad externally. It is an accident which frequently occurs, judging from my own experience, and if attended to at once may save untold trouble and the reputation of the physician. I will here say that it ought to be the habit of every accoucheur to carefully examine the parts externally and internally after the parturition.

The next subject to which I wish to call your attention is that of the surgical treatment of pleurisy with effusion and empyæma. I say surgical treatment, because I am of the firm conviction that paracentesis should be performed in the former, when the effusion is large, at a comparatively early date, and that a permanent opening, with antiseptic precautions and dressings, should be made in the latter case as soon as symptoms indicate that the fluid is purulent. No one of you has been long in practice without meeting some one of those unfortunates, who, having suffered from one or the other of these diseases, has lost the use of a lung, and comes to you with chest walls sunken in, and, from the loss

of half his oxygenating capacity, his power of endurance against disease and exposure just so far lessened. I daresay, also, many of you have seen cases of phthisical taint in which the compression of the lung by pleuritic effusion for a length of time was enough to start a tubercular invasion of the compressed lung. I have in mind two exceedingly instructive cases which were under my care within the last two years. There were five children of a family, all with inherited phthisical tendencies. One, a girl, died of rapid phthisis. Another, older, was incurably sick of the same disease; a third, a young lady, was taken in the winter of 1882–83, with acute pleurisy, and a large effusion in the left chest. Her power of reaction was exceedingly feeble and her constitution poor. With the family history staring me in the face, I made up my mind that delay was dangerous, and aspirated the chest twice at an interval of about two weeks. She made a slow but perfect recovery, the lung expanding almost if not quite to its original size; and later she was enabled to enter the training school for nurses, and endure the severe and onerous duties of that occupation without detriment to her health. Had I waited or refrained from aspiration, I doubt if she would have been alive at this time. The following winter her brother, a student at the Massachusetts Institute of Technology, also had an effusion into the left chest which pushed the heart over under the sternum. Without waiting long, I also aspirated him, and in a remarkably short time he was out again and at his work. With this experience and a still larger one while house physician at the Boston City Hospital, in the beneficent results of aspiration, I can but urge upon you the early surgical treatment of pleuritic effusions by paracentesis.

When the fluid has become purulent and we have the condition known as empyæma, early surgical interference is all the more pressingly indicated; and the results obtained by the more recent methods of antiseptic operation and after treatment are remarkable both from the large percentage of recoveries and the rapidity of the recovery. Dr. A. T. Cabot of Boston, in the Boston Medical and Surgical Journal of August 16, 1883, gives a series of fourteen cases in which permanent openings were made, drainage tubes inserted, and antiseptic precautions used.

Of these fourteen cases, eleven recovered, and three died. Two of the fatal cases succumbed to phthisis, and in the third case the effusion had existed for four years. In the successful cases, the empyæma was of tolerably recent origin. The average time the tube remained in the chest was twenty-four days; the final removal of the tube indicating that the pleural cavity was closed. Those of you who have seen, as I have, cases of empyæma, even with permanent openings but without antiseptic dressings, drag along their slow length month after month, to eventually end, perhaps, in phthisis, will appreciate the immense advantage of this method of treatment. It may be of interest to give in this connection, Dr. Cabot's method of operating and applying the dressing. As to the operation, he uses a grooved needle, which he introduces at the point selected at the base of the chest. Upon pus appearing in the groove he enters a knife upon it directly into the cavity. If necessary from the presence of purulent clots, injections of liquor sodæ chlorinatæ are used, and this is also the antiseptic fluid employed in the dressings, except the carbolic gauze. Two drainage tubes are inserted side by side, barely projecting within the chest walls, and after being securely fastened with safety pins and adhesive plaster, are cut off close to the skin. A handful of loose gauze wrung out in the antiseptic solution is placed around and over the mouths of the tubes, and over this a pieee of mackintosh large enough to project in every direction beyond the gauze beneath it. Over this again are placed twelve or fifteen layers of dry gauze, and lastly a sheet of cotton batting to provide for equal pressure. The whole dressing is held in place by a gauze or flannel bandage, some of the turns of which are carried over the shoulder to prevent its slipping down. It is quite customary among the Germans* in operating in empyæma to resect a portion of a rib, generally of the sixth rib in the axillary line, but with us this practice is not frequently resorted to. As another particularly well suited antiseptic for the empyæmic cavity, it seems to me that iodoform powder, blown into the cavity thoroughly through the permanent opening, would perhaps excel in its efficacy the liquor sodæ chlorinatæ.

*Deutsche Zeitschrift für Chirurgie. February, 1884, Schädla in Gottingen Clinic.

Within the last two or three years the method of saline injections, as a substitute for the transfusion of blood in conditions of acute anæmia and collapse, has been tried with brilliant success, and gives promise, in my opinion, of being a life-saving measure of the greatest value. Moreover, it is so simple in its application, and in the apparatus used, as to bring it within the skill and reach of any physician. It is to the Germans that we are indebted for this, as for so many other recent advances in surgery; and it was Bischoff,* with the knowledge gained from the experiments of Schwarz and others, who first attempted it upon a human being in a case of acute bleeding from separation of the placenta. The principle of the method depends upon the fact, determined from the experiments of Hacker, Schwarz, and others, that the danger from the loss of blood depends upon the disturbed relationship between the calibre of the vessels and the quantity of the blood contained therein, and not in the diminished number of red blood corpuscles, and hence that it is not the quality of the liquid injected, but the quantity which is of real importance.

Dr. Bull † of New York, who was the first so far as I know, to use the method in this country, has collected nineteen cases, including six of his own, in which the operation has been tried where the patient was at the point of death, and in thirteen entire recovery ensued. All that is absolutely needed for the performance of the operation is a funnel with some rubber tubing, attached at the end of which is a canula, and some common salt solution, though a graduated bottle instead of the funnel is perhaps more convenient, and the so-called Schwarz solution is generally used, which consists of water, 32 ounces; chloride of sodium, 1½ drachms; and carbonate of soda, 15 grains. The chloride of sodium and soda in these proportions being kept dry in a small bottle until they are to be used. The solution should be warmed to one hundred degrees Fahrenheit, and flow from a height of two or three feet, and the time occupied in the flow should be from fifteen to twenty minutes. A vein at the fold of the elbow is generally selected, or failing in this the fluid

* Medical Record, January 5, 1884, p. 6; also October 20, 1883, p. 434.

† Medical Record, January 5, 1884, Intra-venous Injections of Saline Solutions as a Substitute for Transfusion of Blood.

may be injected into the central end of the radial artery. The instrument used to open the vein or artery being preferably a trocar. Dr. Bull in concluding his paper says, "The 'record' of this method of treatment justifies its further trial, and I hope that practitioners will be encouraged by the observations I have collected to adopt it. We all know that transfusion has saved the lives of many patients, and I believe that it would have saved the lives of many more, had not men, in view of its risks and the circumstances attending it, deferred its performance until they were *sure* that their patients were going to die. Now the injection of the salt solution is safe, and free from all the disadvantages of blood transfusion. We may hence urge its trial at a much earlier moment, and may expect a favorable result." It is not unlikely that in the future the obstetrician may carry in his bag the simple apparatus for the performance of this operation, as much as he now carries his bottle of ergot.

I have already taken so much of your time that I shall not do much more than mention in passing a number of other comparatively new devices and operations in surgery. The method* of digital exploration of the bladder through an opening from the perinæum into the membranous portion of the urethra, devised by Sir Henry Thompson, will be of much value, it seems to me, both as a means of diagnosis and as a remedial measure. It does not seem to be an operation attended with exceeding risk, or a difficult one to perform. My attention was particularly called to this operation in reviewing a very unsatisfactory case† which came under my care for a while a year or two ago. The autopsy showed a large abscess of one kidney with disease of the bladder, and the trouble began in a previously healthy young man from no sufficient exciting cause. The case extended over two years, and I was always in doubt, as I am to this day, whether the bladder or kidney was primarily affected. No treatment whatever seemed to exercise a particle of influence upon the course of the disease. In a case like this it seems to me that such an operation as Sir Henry Thompson's would have been advisable in the earlier stages of the disease, and if the cystitis had proved to be the primary trouble, would have been a remedial measure of value

*London "Lancet," May 6, 1882; "Medical News," January 5, 1884.
†Boston "Medical and Surgical Journal," March 27, 1884.

in giving more thorough drainage to the bladder, and in preventing, perhaps, the invasion of the kidney. Otis,* in his recent excellent work on Genito-Urinary diseases, considers the operation as one of greater risk than does Sir Henry Thompson, and moreover believes that it should not be attempted until all other means have been exhausted; but then, he says, it is an operation of great practical value, and a justifiable one under proper circumstances.

I will here take the opportunity to refer to Otis' unique method of treating stricture by dilating urethrotomy, first, by means of the urethrameter determining the exact position of the stricture and the caliber of the urethra. As time goes on I feel convinced that this method will receive greater and greater attention from the profession. No one can deny that it has done very much towards a more exact and intelligent treatment of strictures, and that the most hopeful prospects in gleet are from its use, depending upon Otis' proposition, which I believe is true, that gleet is the result of a mechanical condition, namely stricture.

On October 29 of the last year, Mr. Lister presented to the medical society of London a remarkable paper upon the treatment of fracture of the patella by wiring the fragments together. I have only time to refer you to this exceedingly interesting paper in the London *Lancet* of November 3, 1883, in which a series of cases are given, and the details of the operation. The question of course arises whether it is justifiable to undertake such an operation for a condition which can be endured, and which entails no risk to life. Mr. Lister in his paper says in reference to this, that he considers no man justified in performing such an operation unless he can say with a clear conscience that he considers himself morally certain of avoiding the entrance of any septic mischief into the wound. If he can say this with a clear conscience, then he is not only justified but bound to give his patient the advantages that are to be derived from this method of procedure; and further he says, "I believe it to be the truth that by antiseptic means we can safely do, and are therefore bound to do, operations of the greatest importance for our patients' advantage, which, without strict antiseptic means, the best surgeons would not be justified in recommending."

*Genito-Urinary Diseases and Syphilis, New York, Bermingham & Co., 1883.

In the "Lancet" of November 14, 1883, a series of fifty cases is presented, with only two deaths, and Dr. Frazer C. Fuller, in the "Medical Record" of December 22, 1883, gives three successive cases with his mode of operating. He uses the utmost care in every detail of the antiseptic method, making the statement in his concluding remarks that the secret of success in the cases was antiseptic surgery in the true sense of the term, and in detail especially. Instead of hammering the twisted ends of the wire into the anterior face of the patella, as Mr. Lister does, he turns them down between the fractured surfaces.

As I am writing these pages, the medical journals from New York and Boston bring numerous accounts of the administration of ether by the rectum, following the experiments of M. Molliére of Lyons. The advantages of this method as given by M. Molliére are that the period of excitation is suppressed; one can regulate the dosage very exactly; the amount of ether used is reduced to a minimum; one can operate upon the face with greater facility; and it is more agreeable to those to whom the odor of ether is nauseating and objectionable. The dangers from this method, however, I am inclined to think, are much increased, judging from the reported cases so far. The degree of etherization is not always under control, for after anæsthesia is induced, there may be an amount of vapor in the intestines beyond reach. It seems to have a tendency, also, to cause serious intestinal irritation. Neither does it seem applicable in prolonged operations. It needs more time and experience, however, to determine how far and to what extent this method can be used safely and with advantage. Dr. Munro, house officer at the Boston city hospital, has kindly furnished me with some notes as to the use of ether by this method at that institution. He says about two ounces of ether are placed in a small, tightly-corked flask, with which a rubber tube is connected by means of a glass tube dipping down into the bottle. A portion of a large-sized French elastic catheter, pierced by holes both at its extremity and about the sides, is attached to the end of the tubing. Everything being ready the flask is immersed in a basin of water at about 95° F. The ether passes over rapidly, the intestine is soon distended by the vapor, and absorption occurs very rapidly. The taste of

ether is appreciated in the mouth in from one and a half to two minutes. There is a stage of pleasurable excitement only. Complete anæsthesia has been produced in a time varying from four and three-quarters to thirteen minutes. With two ounces of ether anæsthesia has lasted about thirty minutes. On coming out of it there is no gagging, nausea, or vomiting.

AIDS IN OBSTETRICS.

BY I. G. ANTHOINE, M. D., ANTRIM.

This subject affords a wide field for study, observation, criticism, and discussion, and is suggestive of a long, tiresome paper, but I will ask your attention for only about ten minutes. I am aware that I shall be criticised in regard to some of the means I have made use of to relieve the sufferings of my patients, knowing well, from conversing with other physicians, that they differ with me in their practice, yet I will venture to give my small experience in the use of a few of the aids which have served me best in my obstetric practice, avoiding quotations from authors and everything which might tend to make the paper long and wearisome.

Chloroform stands at the head of the list, being truly a wonderful remedy, and may well be called "the woman's blessing." Its advantages over ether are as follows: Its effect is almost immediate; it is not necessary to render the patient wholly unconscious; it does not produce the excitability that ether does, and when given in the following manner is just as safe. Fold a handkerchief or small napkin, place it in the palm of the left hand, apply it to the bottle of chloroform and quickly invert it twice; grasp the handkerchief to prevent evaporation, and apply to the face of the patient as soon as the pain commences, and remove the same when it ceases. There will usually be enough left to give again if care is taken not to allow it to evaporate during the interval. Thus continue till the labor is terminated. The patient rests tranquilly during the intervals. I always tell her to call for more as soon as she feels the pain coming, and unless she feels pain enough to call, I shall not give the chloroform. This I have usually found to be a good guide. I never give it to com-

plete anæsthesia; when this is necessary, as in case of instrumental delivery, or any operation requiring it, I prefer ether, not that I like its effect better, but because I feel safer with it when the patient is fully anæsthetised. That anæsthetics may in the first stage of labor weaken the uterine contractions and perhaps entirely suspend them for a time is well known; but if due observation be given it will often be found that those pains were of the irregular, spasmodic character which had much better be suspended than allowed to go on annoying the patient and doing no good. In the second stage such a result seldom if ever occurs, and if it should, it must not be regarded as a fault with the remedy, but as a proof of its abuse, and should be withheld till the contractions return. It is argued by some that the efforts of the patient, which are a great help in the second stage, are abolished by the inhalation of anæsthetics, but such has not been my experience. The voluntary muscles which the uterus seems to call to her aid during the second stage of labor, are those of the abdomen, diaphragm and chest, and since these are the muscles of respiration which are not affected by anæsthetics, unless pushed to a degree beyond that which prudence would allow, the expulsive efforts of the patient go on the same although she does not toss about and appear to make much exertion. The object of the chloroform is to take off the sharp edges of the pains by keeping the patient semi-unconscious. This it will do with perfect safety. I think I have given it a hundred times and have never seen a bad result to either mother or child.

We read about post-partum hemorrhage after the administration of chloroform, and chloroform gets the blame; but post-partum hemorrhage occurs when no anæsthetic has been used. We read, too, of deaths from the inhalation of chloroform, but they usually occur in the dentist's chair, and I think, too, before the teeth are extracted; but I have never heard of a death as a result of chloroform properly given in labor, for it is not to be given till the pain begins, and the pain counteracts its effect on the heart.

The rigid *os* which we frequently meet with in primiparæ yields under the influence of anæsthetics, and hours of time and suffering may be saved in the *first* stage of labor. To illustrate I will

briefly relate one case; Mrs. G., primipara, age 22; was called on the morning of January 3, 1883, found the os rigid; gave one-fourth grain morphia hypodermically, with the idea that the pains were spasmodic, and returned home; was summoned next morning; found the os in the same condition as before, although the pains were good and strong. Waited till 4 P. M., and no progress being made, and the patient becoming quite exhausted, I decided to give ether and if possible forcibly dilate the os and apply the forceps. When fully etherized I found the os dilatable, and dilated sufficient to accomplish this without unusual difficulty. The child was still-born, and I have good reason to believe had been dead for some hours. If ether or chloroform had been given twelve or twenty hours earlier, while the patient's strength was good, the forceps would not have been required, and perhaps the life of the child saved. In those cases of excessive resistance of the muscular fibers of the perineum which serve as an obstacle to the further passage of the child, chloroform or ether may be administered to great advantage.

Other indications for anæsthetics in labor might be mentioned, but I will not take the time. I never urge it upon a patient, but when the pains are severe and she begs for *something*, I resort to the chloroform, and as yet have never had cause to regret it. As I view the subject, it is our duty to recommend it and let its great advantages be generally known. When the patient knows that she can be relieved of the last terrible pains of childbirth, it spares her the fear and dread of her approaching labor, the nervous system is at rest in this regard, and she is in a better condition to meet the coming event than she would otherwise have been.

Various methods are suggested by different authors for supporting the perineum. One recommends raising it by passing the index finger into the anus, at the same time pressing the thumb against the occiput, —an ingenious method but not always available, for at the time when it needs to be supported, the anus is often obliterated and the finger cannot be passed; another says if the pains are very strong and laceration seems imminent, hold the fœtus back till the perineum has time to more fully distend; still another says, never try to hold back the fœtus lest you stimulate the uterus to a firmer contraction, and thus increase the

difficulty; hence it is a puzzle to know just what to do. Whenever I support the perineum at all, I lubricate it with lard or oil, and with the right hand, the ulnar side below the anus, endeavor to raise it towards the symphysis pubis. Whatever means may be used, at least *partial* lacerations will sometimes happen, and when the head appears more like passing through the perineum than the vulva, the short forceps comes in as our greatest aid, by enabling the operator to lift the head from the perineum and thus save it from a rupture.

When I have made use of the forceps, I have never met with this accident except once, and in this case I think the forceps should not be blamed. Will give a brief history of the case, however, and let those who are older and had more experience than myself be judge. The patient had been in labor about twenty hours when she became exhausted, and the pains almost extinct. The nurse informed me that instruments were used in her previous confinement. After resorting to the various means usually adopted in such cases, except ergot, I applied the forceps and the head was born without accident, but the shoulders were firmly impacted, and it was not until the perineum gave way that the child was born, a short, thick-set, broad-shouldered boy, weighing plump twelve pounds. An examination revealed a complete laceration extending up the rectum about two inches. I at once sewed up the wound, and in ten days it was perfectly united. Whether the forceps had anything to do with the accident I cannot say. However this may be, I think in such cases it gives the child a much better chance than the use of ergot; the titanic contractions of the uterus produced by the latter are perilous to the child and may contribute to rupture of the uterus as well as the perineum.

It frequently occurs, especially in primiparæ of robust health, that the labor progresses favorably till the head reaches the floor of the pelvis when its further progress is arrested, although the pains continue vigorously. Here the forceps will save the patient hours of suffering, to say nothing about the physician's time. Therefore, the application of the forceps is frequently indicated; and, properly used, is the safest and one of the most useful aids in obstetrics.

The lever is a useful instrument, and in former time was much used by some of the leading obstetricians, but at present is almost entirely abandoned, the forceps taking its place; but the lever can be used many times with comparative ease when it would be exceedingly difficult to apply the forceps. It served me admirably in a face presentation in which the forceps were applied without success; one blade being removed the other was used as lever, and I was surprised at the ease with which the occiput was brought down, the chin flexed upon the chest and the case converted into a vertex presentation. When the chin presents at the sacrum the lever can be quite easily applied over the occiput, and with safety. Whatever the position may be at the superior strait, the lever has the great advantage of being much more easily applied, and should be tried before making use of the forceps. I intended to mention a few points in reference to the third stage of labor, but had not the time, and will leave that to the paper entitled Report on Obstetrics.

Dr. Hill of Dover: — I understood Dr. Anthoine to say that in cases of complete anæsthesia he should prefer ether to chloroform. I have not understood that to be a sound doctrine, but I should like to know what is the opinion of the medical men present. I understand in midwifery, especially, chloroform is admissible where it would not be in other cases. In surgical cases it may be preferable to use ether, but in midwifery the converse is true; chloroform is admissible there more fully than ether. I have given chloroform very fully many times, and have never seen any mischief from it.

Dr. Pattee of Manchester: — I think chloroform may be used to relieve temporarily severe pain; but when about to proceed to some severe and prolonged surgical operation, where the patient is to be kept a half an hour or an hour under the influence of anæsthetics, I always prefer ether, and I think it is less detrimental to the child. But since the introduction of chloral hydrate I think we have a remedy that is satisfactory in ordinary cases. Another remedy I have found to be perfectly safe, and generally expedites labor very much, and in a large majority of cases will supplant ether; and that is the injection into the rectum of lobelia. Perhaps with hydrate of chloral it is one of the best reme-

dies to relieve a rigid os or rigid perineum, and, as far as I have used it, has always been absolutely without deleterious results either to the mother or the child.

Dr. Smith of Massachusetts: — In the case of rigid os I have found most benefit in the use of tartrate of antimony. I never have had to use forceps in my life; I have depended on nature and the remedy I speak of. Give just enough of it to loosen the system and not to prostrate, but control the action of the muscles till they begin to have some relaxation, and labor is accomplished without much trouble. Where the head comes through a great many have trouble about the shoulders sticking. When the head comes through I pass my hand forward under the chin and under the occiput, and at the same time make traction enough so that the shoulders pass, and that brings the child. I have never had any trouble about a child being born in that way.

Dr. Savory of Lowell: — I should like to say one word in regard to chloroform and ether. I think there is great difference in the action. Ether acts as a stimulant, and chloroform as a sedative, and you can not regulate the action of chloroform. The last time I used chloroform I very nearly killed my patient, and did not give her half an ounce. That was a dozen years ago. And I have seen patients very near dying from chloroform. Now ether is, comparatively speaking, safe; its action is that of a stimulant, but it is always safe and can always be controlled. Therefore in all cases, if I wanted to use anæsthetics in a case of rigid os, I should use sulphuric ether. I think it is safe and under control, but the chloroform is not, and you can never tell beforehand what the effect will be. By ether I have never seen any one seriously injured.

Dr. Anthoine: — I will ask Dr. Savory if he did not at that time endeavor to put his patient under the influence of chloroform at once? Now the method I suggested was to fold a handkerchief, put it on the nose of the bottle, and tip it up twice and you would not get more than ten drops. It might not relieve the patient very much the first pain. The patient should gradually be brought up to it, and not directly. There is where the danger is in using chloroform.

Dr. Savory of Lowell: — I would simply say there was another case where I used chloroform. I poured perhaps half a drachm on a handkerchief and put it over the nose of the patient, and to my astonishment she ceased to breathe, and her heart ceased to beat.

Dr. Anthoine: — If there had been a labor pain that would not have been the effect.

Dr. Gage of Concord: — I have not used chloroform for twenty-five years. I consider it unsafe in any case. I have yet to learn of the first case where injury has resulted from the use of good, pure, sulphuric ether. I have always used that, and never used chloroform.

Dr. Adams of Manchester: — I came into the profession some ten or twelve years ago, with the use of chloroform thoroughly impressed upon my mind in cases of obstetrics. Professor Thomas had taught his students in that way, and most of the prominent obstetricians have used it since. I have always used it where there have been no objections on the part of the family. I have seen flooding follow from the use of ether; I have seen flooding follow where there was no ether and no chloroform used, but I never yet saw flooding follow the use of chloroform in my life. I have used it in every case where I have been permitted to use it, and where there have been no objections. I find in the city of Manchester, where I am in practice, a great deal of superstition with reference to chloroform. Whether it has come from stories of people dying from the use of it, I can't say, but probably three-fourths of the families object to the use of chloroform in every way, shape, and manner. I have used it in a method very much similar to the one here described. As soon as the pain is over they are out of it, and lie and talk with you till the next pain comes on, till they reach the third period, then I crowd it a little more. I have had, I can't tell how many, women say to me that they never passed through their labors with such ease before in their lives. I heartily endorse it, and hope to see it come into more general use. I see it is recommended highly in the International Surgery in cases of obstetrics, and in fact I think the most prominent obstetricians are using it throughout the country, and very few oppose it.

Q. — How do you know that the ether produced the flooding in the cases you speak of?

Dr. Adams: — I said "where ether had been used." I have seen flooding follow the use of ether in two different cases. I will not say ether produced it, but I think it did. I think it did for this reason: the patient is so deadened from the effects of ether, it takes so long to put her under its influence, you have saturated the system to that extent, that she goes beyond your control. You can give her chloroform, a little more and a little more, and let her right out, and you can handle it just as you are a mind to.

Q. — Does the doctor give us to understand that he would recommend chloroform in all cases?

Dr. Adams: — I would recommend chloroform in every case of labor. I believe it would save two-thirds of the suffering that women have to go through with in child-birth, and I believe it is the mission of the doctor to save pain where he can do it.

Dr. Jones: — I should consider it a great misfortune for the female portion of the race if chloroform comes into use. I consider it a dangerous remedy, to be handled with great care, and one which takes but very little to snap the cords of life. I know of my own experience; I have seen it in hospitals. Knowing this to be the case, I am somewhat surprised that no allusion has been made to a combination of alcohol, ether and chloroform, in the proportion of one of alcohol, two of chloroform, and three of ether, forming one of the very best combinations that you can get; the stimulating effect of the ether is counteracted by the sedative effect of the chloroform. I have never seen any unfavorable or adverse result from it, and you can manage it just as you please; that is, you can get just as great or just as little effect from it as you choose.

Dr. Lathrop: — Dr. Adams would use chloroform in every case. That would include such cases as the one I will narrate. The patient's labor was short, and was over very quickly, and the husband in all sympathy — it was his wife's first labor — came close to her side and asked, "Isn't it dreadful?" Said she, "It kind of hurts."

Dr. Whittier: — In relation to the combination of chloroform and ether, I think it is a very dangerous remedy, and I should hope no one would ever use it with the expectation of getting the beautiful results described by Dr. Jones, for I believe in the combination you get the action of the chloroform when you think you get the action of the ether, and I believe in many cases you are very liable to kill your patient.

Dr. Stackpole: — My experience and observation fully agree with Dr. Adams. I think you have to use so much ether you get the system so thoroughly saturated that there is danger afterwards. I use chloroform in the same manner that Dr. Adams uses it. I don't keep the patient under its influence, but merely deaden the pain for the time being, and I get my patients through without trouble. I have seen cases such as Dr. Adams refers to, where I think ether was the cause of the hemorrhage.

Dr. Drake of West Lebanon: — I have been taught to use chloroform in labor, and I have used it since I have been in practice, about two years. I think I have used it in two-thirds of my cases, and have not yet seen any warning not to use it. Of course I used it with caution, putting just a little on a handkerchief and keeping it in my hand.

Dr. Childs: — Some years ago I read a paper in which I opposed the use of chloroform in these cases as well as others, and I was very severely criticised in various parts of this state, and in some of the medical journals. I was brought up to use chloroform, and I gave it during the war hundreds of times, and I never saw a patient die from its effects. I have used it a good deal in my obstetric cases. But I believe it is one of the most fearful instruments in our hands. The trouble is, it will catch us just when we do not expect it. It is just the patient we don't expect to die that will die from its use; and because you and I have had one hundred patients to whom it has been administered with safety, it is no sign that the danger is not there.

DISSERTATION ON THE DELUSION OF MOTHERS' MARKS.

BY M. C. LATHROP, M. D., DOVER.

Every age witnesses modifications, amounting occasionally to entire revolution, of views which had for awhile, and in some instances for so long as to be venerable with age, held the position of fully accredited truths. Thus has it been in the history of science, and thus must it ever be until the time shall come when the imagination no longer need be conjured for hypotheses with which to supplement the elementary facts of its foundation and framework. History to its very horizon is strewn as by autumn leaves with these *chateaux en Espagne* which ingenious minds have ever loved to build in the border lands of science. Long ere Copernicus caught the perfect refrain of the sky the morning stars had sung together, charming the hearts of men, while honest seers like Ptolemy had tried and tried, but in vain, to write the tune, fated by the very greatness of their authority to delay success. In optics, Newton's authority alone held the fort for the corpuscular theory of light against that of undulation which now prevails, for nearly half a century after it was offered to science, Huygens and others who saw the truth being hushed to bitter silence by the power of the name around which, as the scintillations of a halo, played the newly discovered laws of gravitation. Thus has it ever been with the great; their erroneous views remain as encumbrances on their otherwise rich legacies of thought.

Homage to power is as natural and universal in the realm of ideas as it is in the world of things, and a tendency to absolutism as strong. Here, as there, the "price of liberty is eternal vigilance." It behooves us, therefore, to acknowledge the mandates of no intellect, however imposing in its greatness, which do not perfectly conform to the law and order of nature as they appear reflected in the already revealed truths and maxims of science.

Tyndall, who in certain lines of scientific thought has earned all there is of right to the ermine of intellectual royalty, in the preface to a recent edition of his Treatise on Sound says: "Shall I say that authority in science is injurious? Not without some qualifications. It is not only injurious but deadly when it cows the intellect into fear of questioning it. But the authority which so merits our respect as to compel us to test and overthrow all its supports before accepting a conclusion opposed to it is not wholly noxious."

Fortified with these reflections, we can with less trepidation tell the list of Teachers; and look with denial in the face of our fellows upon whose affirmation the popular belief which we here oppose has its only claim to scientific notice.

From time immemorial and almost universally, in popular belief, it has been held as certain that the embryo and fœtus of various animals, and more especially those of man, may be *specifically* deformed by the operation of the mother's mind and sensibilities; that any strong impression made upon her imagination, whether by external object through her senses or purely subjective in origin, may appear again physically reflected, as it were, in the body of her child. The facts from which this belief has grown, as an inference seemingly the most natural and unavoidable, are numerous, but in no wise are they stronger or more striking than many of those which convinced the ancient geographers that the earth was flat and fixed; that made astrology a universally respectable belief; that secured a faithful following to conjurers, whose incantations never failed in seemingly removing the terrifying darkness of eclipses, or in modern times secures a following to charlatans. But as the telescope by developing astronomy negatived or destroyed the superstition of astrology, so does the microscope in modern times promise to clear the field of embryology of this millenarian error.

Of modern names which may be cited as to some extent giving it philosophic sanction are those of Home, Elliotson, Burdach, Hammond, Seguin, Tuke, J. Lewis Smith, Carpenter and Dalton; and as their statement of the physiological argument and attempt at a scientific justification of the belief seem most complete, I will here quote from the two last named.

Carpenter says: "No soundly judging physiologist of the present day is likely to fall into the popular error of supposing that marks upon the infant are to be referred to some transient though strong impression upon the imagination of the mother; but there appears to be a sufficient number of facts on record to prove that habitual mental conditions on the part of the mother may have influence enough at an early period of gestation to produce evident bodily deformity or peculiar tendencies of mind. That the mental state of the mother can produce important alterations in her own blood seems demonstrated by the considerations previously advanced in regard to its effect upon the processes of nutrition and secretion, and that such alterations are sufficient to determine important modifications in the developmental processes of the embryo to which her blood furnishes the material can scarcely admit of a question, when we recollect what an influence the presence or absence of particular substances has in modifying the growth of parts in the adult. The error of the vulgar notion on this subject lies in supposing that a *sudden fright speedily forgotten* can exert such a continual influence on the nutrition of the embryo as to occasion any personal peculiarity."

In a marginal note under the above he says: "Numerous cases have been recorded during the last few years (especially in the "Lancet" and the "Provincial Medical Journal") in which malformations in the infant appeared distinctly traceable to strong impressions made on the mind of the mother some months previous to confinement, and giving rise to full expectation on the part of the mother that the child would be affected in the particular manner which actually occurred."

The previously stated proposition, to which allusion is made in the above quotation from Carpenter, refers to the effect on particular tissues of an excess in the blood of the materials especially belonging to those tissues, as, for instance, abundance of fat or of lime salts in the blood determines increase respectively of adipose and osseous tissues; also to Paget's curious generalization, which assigns to the processes of development and nutrition of the different organs and tissues a supplemental one of excretion. Thus every act of nutritive selection from the blood by any one tissue being to every other tissue an act of depuration

analogous to the functions of those organs which are purely excretory.

Dalton says: "There is now little room for doubt that various deformities and deficiencies of the fœtus, conformably to the popular belief, do really originate in certain cases from nervous impressions, such as disgust, fear or anger, experienced by the mother. We know very well how easily nervous impressions will disturb the circulation in the brain, the face, the lungs, etc., and the interior circulation is quite as readily influenced by similar causes, as physicians see every day in cases of amenorrhœa, menorrhagia, etc. If a nervous shock may excite premature contraction in the muscular fibers of the pregnant uterus, and abortion, as not infrequently happens, it is certainly capable of disturbing the course of the circulation through the same organ. But the fœtal circulation is dependent to a great extent on the maternal, since the two sets of vessels are so closely entwined in the placenta; and, since the fœtal blood has here much the same relation to the maternal that the blood in the pulmonary capillaries has to the air in the air vesicles, it will be liable to derangement from similar causes. If the circulation of air through the pulmonary tubes and vesicles be suspended, that of the blood through the capillaries comes to an end also. In the same way, whatever disturbs or arrests the circulation through the vessels of the maternal uterus must necessarily be liable to interfere with that in the fœtal capillaries forming part of the placenta; and lastly, as the nutrition of the fœtus is provided for wholly by the placental circulation, it will of course suffer immediately from any such disturbance of the placental circulation. The effects may be manifested either in the general atrophy and death of the fœtus, or, if the disturbing cause be slight, in the atrophy or imperfect development of particular parts; just as, in the adult, a morbid cause operating through the entire system may be first or even exclusively manifested in some particular organ, which is more sensitive to its influence than other parts."

These arguments show plainly enough, perhaps, an *a priori* possibility from a physiological point of view of the existence of some causal relation of a *general* nature between morbid excitations of the maternal sensibilities and embryonic and fœtal

pathology, and hence its death or feeble growth. But they come far short of accomplishing the task which they undertake, viz., reconciling physiology and the asserted power in these perverted sensibilities to give *specific* and *ideal* direction to fœtal development and growth.

From among the cases reported in the "Lancet" and "Provincial Medical Journal," referred to in the above quotation from Carpenter, I have selected a few of the most striking.

In "Lancet" for 1850, page 466. Case reported by Dr. R. Davis: Second child, easy labor, fine healthy boy, well developed every way except deficiency of both arms. On the left side was no trace of humerus; on the right was a two-inch stump surmounted by a well-formed finger. The mother stated that she saw once, when about six weeks advanced in pregnancy and while taking a walk, a child nearly naked that was similarly deformed, and at the time was much horrified, but had entirely forgotten the circumstance.

Another case reported to the London Medical Society by Dr. Crisp: A child brought to the Dispensary November 15, 1853, was nearly deficient of right leg, the stump of it terminating about one inch below the knee joint. The mother states that her first child had a very *long head*, she having been frightened at a horse at commencement of her pregnancy. During early months of last pregnancy she was horrified by a sailor without legs, and her expectation, when she found that she was pregnant, was that the child would be deformed, but not exactly that it would be born with but one leg. Dr. Crisp remarks that he had always before been a disbeliever, was however somewhat shaken by this, although he thought it might be only a coincidence.

Another case was reported by Geo. Shorland, M. R. C. S., in "Lancet" 1854, page 481. A woman in labor at seventh month expressed a fear that the child would not be "all right," as two months previously (fifth month of pregnacy) she was frightened at the sight of a negro peddler who came into her house. The child was stillborn. Its lower extremities, right arm and scapula and left side of face were perfectly black, and black spots were on various other parts of its body. The colored skin was healthy, but precisely like a negro's skin.

The next case, seen by Dr. J. Lewis Smith, is reported in his work on "Diseases of Infancy and Childhood," page 19. An Irish woman of strong emotions and superstitious was passing along a street in the first months of her gestation, when she was accosted by a beggar, who raised her hand, destitute of thumb and fingers, and in "God's name" asked for alms. The woman passed on, but reflecting in whose name money was asked, felt that she had committed a great sin in refusing assistance. She returned to the place where she had met the beggar, but never afterwards saw her. Harassed by the thought of an imaginary sin, so that for weeks, according to her statement, she was made wretched by it, she approached her confinement. A female infant was born, otherwise perfect, but lacking the fingers and thumb of one hand. The deformed limb was on the same side, and it seemed to the mother to resemble precisely that of the beggar.

The difficulty which attends our regarding the almost startling resemblances which sometimes appear between the child and the pre-imagination of the mother as merely casual is not so great as it seems, and vanishes when we consider that the greater mass of disfigurements may be resolved into a few well-defined classes: That, like hare lip, most, if not all, are sometimes evidently hereditary; that hereditary influence does not always act continuously, sometimes skipping many generations; that maternal fright and evil expectancy are companion facts, almost always found together, and are nearly as common as prospective motherhood, while the coincidence of the foreboding and fulfilling phenomena is more rare than the similar confirmations of almost any other superstition. In no respect, then, are these remarkable coincidences of one whit more logical weight than are those where family deaths occur in perfect conformity with the forebodings excited by the breaking of mirrors or in the frequent association of recoveries with infinitessimal therapeutics. To me they all appear equally and alike casual.

Rokitansky denies our right to argue at all from resemblances to animals, declaring such resemblances to be always purely accidental, and to depend on the important fact that at its different stages of development the human embryo bears close resemblance

to the lower order of animals, so that simple arrest of development, more or less general, arising from any cause, coupled with continued growth, sufficiently explains all cases where such resemblances seem to exist.

The physiological difficulties, barring the popular belief, which arise from the nature of the relation of the offspring to its mother, are insuperable, for from conception to birth it is wholly parasitic. During that whole period, equally with any after time, it is a wholly separate and distinct being. Its nervous and its vascular systems are its own. The organ by which its blood exchanges are effected is its own and of its own make. Vegetable like, the placenta selects from the sanguinary currents by which its tufted rootlets are bathed every material needed by the being whose servant it is.

A careful examination of the arguments of Carpenter and Dalton will show the futility of all such attempts to establish on physiological grounds the *a priori* possibilities of this belief. Both recognize the processes of general nutrition as the only possible avenue of operation for such adverse influence. Both yield their assent solely because compelled by the apparent difficulty of regarding as merely accidental the striking coincidences which occasionally appear between deformed births and antecedent maternal impressions. Carpenter, however, without seeming hesitation or difficulty, sweeps away as insignificant the larger portion of all this same evidence by limiting its admitted field to the earlier months of pregnancy, and still further by rejecting all cases, however striking the coincidence, when the maternal impression was transient, however severe.

Dalton finds its necessary, in all partial disfigurements, which constitute all of that which we are now considering, to premise, under the euphemistic phrase, "more sensitive," the *pre-existence of a precisely corresponding weakness inherent in the fœtus*, or in other words, a *germinal defect* which, I submit, seems to be the real cause, and the admission of its presence a sufficient explanation of the whole matter.

The absurdity of the belief is more readily seen when the deformity is asymmetrical, as for instance in the beggar case of Dr. Smith, already cited. The member which so severely suffered,

totally gave up, in fact, its birthright to becoming a hand, must have been very unlike the other, which felt no ill at all, but rather thrived under influences and conditions which we assume to have been to the other most malign. Now we can but believe that nutriment which would be suited to one side must also serve to nourish the other, and that by no possibility can one fœtal arm or leg cease its development or growth from lack or bad quality of supplies, as Carpenter would have us think, while the other is flourishing under precisely the same conditions.

The universal supineness of sanitarians in this direction, as shown by the total neglect of all those restrictive measures which would so readily suggest themselves as of great importance, if needed at all, tends to discredit the sincerity of the assent which we see so generally given to this belief by our profession.

Now, while accepting the imperfect explanation of deformities which this belief affords, does such violence to the judgment, we have in the theory of germinal defect a solution which is full and at the same time entirely logical and satisfactory. For there is certainly no good reason for assuming a necessary perfection in the seed in these cases, while we find it so easy to accuse it of defect in the many kinds of disease occurring later in life which are universally regarded as hereditary, even though the whole preceding life has been healthy.

In heredity, naturalists think they find a sufficient explanation of the persistency of animal types and the cause of all the happy resemblances of kinship, the conferring of which has ever been regarded as the most sacred prerogative of lawful parentage. But all this hangs on the integrity of the seed, and no one now finds its necessary to look for a fright or for an *unsatisfied* desire to account for any deflection from such resemblances when the likeness of another than himself appears as the result of a pregnancy which claims his parentage; and no medical man of to-day could, I think, be found whose faith would carry him so far as did that of Hippocrates, of whom it is recorded that he "saved the virtue of a woman who gave birth to a black child by pointing out that there was a picture of a negro on the wall of her chamber."

I regard it as a good thing that in the matter of propagation monsters fare no better than their more shapely neighbors, but are equally under the law of lineal descent, and that all may rest assured of the universality of the law that whatsoever is sown *that* also shall be reaped.

REPORT ON OBSTETRICS.

BY M. S. DANFORTH, M. D., MANCHESTER.

Mr. President, and Fellows of the New Hampshire Medical Society:—

A few years ago while visiting in a home where art was highly appreciated, two master-pieces particularly attracted our attention. They were arranged partly in umber lights, so as to represent different scenes, although developing the same allegory, the first piece being called "Dr. —— in his Library;" the second, "Dr. —— in the Clinic." Professional gentlemen can imagine better than we can describe such a *chef-d'œuvre.* Yet we wish to mention a few features. In the first, while the surgeon is pacing the floor in deep, anxious thought, a child enters, holding in her hand a glass of water. Even she intuitively recognizes that she must not interrupt the train of thought, although he had sent her but a moment before for the cooling draught. Such a picture teaches lessons which words fail to convey. It shows one of the greatest operators of the divine art of Surgery, so absorbed in a question of moment, that for the present he is entirely oblivious to any and every thing about him. What does it signify that he is weary and thirsty? and that even a cherub stands beside him with a brimming goblet?

We will not dwell long upon what the child's allegory may be, but certain it is that the artist enjoyed contrasting her ready, intuitive attitude with the slow, steady step of the doctor; also that her hand holding the cold water was in marked contrast to his in the second picture, where after the operation his was dripping with blood, — blood that had to be shed in order to give back life and health to the poor insensible form lying upon the couch.

These two paintings have taught us several other lessons, some of which are unmentionable here; but a year ago, when told we were to report on obstetrics, we humbly reverted to the little child, and longed to hold the cup of cold water instead of entering the amphitheatre and discussing a subject with many who are so much more experienced, and in every way capable of doing better.

In consideration of these facts we have concluded that this report should be an expression, so far as can be obtained, of the opinions and labors of the various physicians of the state.

As nearly as could be ascertained, during the year 1883 there were a little over six thousand births. About thirty-three and one-third per cent of these were either attended by uneducated midwives, homeopathic and eclectic physicians, or unattended by any one, leaving about four thousand, and by far the most critical portion, to the final, if not to the original observation of regular physicians. Of this four thousand we have quite a definite account of nearly seventy-five per cent, giving us direct results of at least one-half the births in our state.

The question of meddlesome midwifery has been second only to that of lacerated perineum. And after listening to the pros and cons of this subject, not only within our state and district societies, but also within the Obstetrical Section of the American Medical Association, it becomes important to read the following from one of our most successful obstetricians, and an ex-president of this society,—Dr. Carr of Goffstown. In a note outside of the tabular form, he says: "I do not believe in a meddlesome midwifery in a natural case. When the pains become expulsive see that the mother does not suffer injury during the passage of the head." Such are the words of a practitioner of forty-five years' experience. Two other physicians in foot-notes represent the majority of practitioners in our state when they emphatically repeat, "We do not advise the use of the forceps in order to save the time of the physician." We are told that there are physicians in our state who do as did a certain southern physician when he significantly shouted to Dr. Gross "Reed birds for supper," meaning by this he had shortened his own labor in a certain case for the sake of hunting. However, our school seems

happily free from such charges, inasmuch as only a little over six per cent are forceps cases, several physicians reporting only 1 in 10, 1 in 15, 1 in 25, and 1 in 45; others had none in 15, none in 40, none in 102, and one none in 120. The percentage was seriously increased by those having 1 in 5, 1 in 3, and one 1 in 2.

After trying to look with an unprejudiced eye, we cannot feel otherwise than justified in anticipating for the forceps a more hopeful future, especially since seeing the beautiful delicate instruments exhibited in Washington in May. Since then we have been led to appreciate more fully the position of a certain famous surgeon (Boer), who in trying to settle the question for himself visited both Paris and London. After witnessing the extreme activity of the French midwifery, followed by the too procrastinating course of the English, he exclaimed, "*Ni jamais, ni toujours.*" Barnes has always maintained that in lingering labor, with the head in the pelvis, forceps are better than alternatives. Uniting with him and the former surgeon, we do most heartily believe that "everything is not to be taken from nature, neither is every thing to be left to nature."

The average of placenta prævia has been a little less than one-half of one per cent. The percentage of this is much more diversified than any other condition with different practitioners, the whole number of cases showing about 1 in 135, while one physician had 1 case in 6; still another saw but one in over 1,600 cases. The percentage of twin pregnancy is much more uniform, yet this occasionally presents some diversities of interest. The average is a little over one-half of one per cent, some having 1 in 17, 1 in 31, 1 in 50, 1 in 64, while others had 1 in 9, 1 in 7, and one 1 in 2. Cases of severe post-partem hemorrhage run a little lower, averaging slightly above one-third of one per cent, more than two-thirds of the cases having only 1 in 50, while quite a number will have 1 in 3, 1 in 2, etc. Puerperal convulsions run as high as one per cent, the physician reporting the greatest percentage having three cases in seventeen. Another especially remarks the great irregularity of this affection, not only in numbers but also in different years. For instance, having had a practice of twenty-five years, he never saw a case during the first ten years, either in his own field or in consultation, but during the

eleventh year he had eight cases in quick succession; then followed a lull of several years, succeeded, however, by another epidemic (if it might be so called) of severe convulsions, and he added that his experience in puerperal fever had been similar. From what we have been able to learn, this terrible malady has been on the increase since January, '84, and should it continue as severe the percentage would prove much larger for the present than for the past year; and, strange to say, that the percentage for puerperal fever coincides exactly with that of puerperal convulsions, the physician having the greatest number reporting two cases out of fifty.

The percentage for phlegmatia dolens falls nearly to one-third of one per cent, and shows not only great improvement in frequency of occurrence, but also in the results of treatment (to which we will again refer).

Mammary abscess falls to a percentage much lower than the former, being only one-fourth of one per cent, and it is quite earnestly expressed that it ought never to be allowed to occur.

Obstinate nausea has occurred in a little less than one-third of one per cent. Only two cases of craniotomy reported in 800, one of these being in a practice of 13, while the other was the first seen in 1,617 cases. About one case in 800 has been followed by insanity, and these were all reported as fatal within a few weeks or months. The occurrence of phthisis was much more frequent, or one in one hundred, the fatality of this being also great and rapid.

No Cæsarean section has been reported, yet we had recited to us one rachitic patient who escaped by craniotomy, whereas, had the fœtus been living, it is probable this operation would have been performed.

Retarded placentæ are of much more frequent occurrence than we had supposed, although some reported as high as 50, 75, or even 100 cases without this misfortune; yet others asserted as many as 2 in 15, 3 in 9, and my own 11 in 15. If any light can be thrown on this important topic, it is hoped that discussion will not be lacking. The percentage runs as high as two.

Among the important questions omitted were those asking for the treatment of *placenta prævia*, abnormal *post-partem* hemor-

rhage, and the treatment of infants whose mothers were opium eaters. In reference to the first, having had one case, we wish to refer to the treatment of Hofmeier, whose teachings not only facilitated our own efforts, but also sustained our courage until the trying ordeal was safely passed. He recommends to wait until distinct symptoms of labor set in, i. e., either uterine contractions or funnel-shaped dilatation of the cervix. The usual rule is to tampon, but Hofmeier opposes this. For a while after the funnel-shaped dilatation is accomplished he works as rapidly as possible. The earlier seen the more clearly indicated is the bi-polar version after the manner of Braxton Hicks; the feet having been guided to the os are seized and by firm traction the breech is effectually made to stop the hemorrhage. In central position this author, in spite of all arguments *au contraire*, perforates the placenta and brings the feet through, introducing the hands into the uterus no more than is absolutely necessary. This gives the mother the best chance, and, so far as we can see, it does not increase the child's danger, as that is very great in any case. The labor should now proceed slowly, very slowly. The child may modify this somewhat, and it may take great courage to relinquish the life of the child, but do not hesitate, for the sake of the mother. After delivery ergotine should be injected subcutaneously, and antiseptic precautions taken. The india-rubber bags recommended by Barnes meet the same indications as that accomplished by the firm, gentle pressure of the child's thigh and breech (half-breech). In case the atomy of tissue at the placental insertion is so great as to cause intense hemorrhage, Klotz recommends the anteflexion of the uterus by placing the right hand in the vagina, and with the left pressure is made upon the fundus through the abdominal wall. In this way pressure can be kept up for thirty or forty minutes, when the flow generally ceases.

When abnormal hemorrhage is anticipated we know many in our state to invariably administer ergot, after the os is well dilated or dilatable, to lessen the danger. We believe it an indispensable measure, but notwithstanding we often get an alarming hemorrhage, especially where there is this diathesis, and, next to retained placenta (which we fear it also complicates), this has been our greatest misfortune. For the first five years we

used freely and without hesitation the persulphate of iron, often alone as a uterine enema, or in combination with iodine and hot water; again with ice locally; also on lint, and finally on sponges, as recommended by Dr. Thomas M. Madden of Dublin. During his observations for over twenty years in the largest lying-in hospital of London, he says he never saw but one death from *post-partem* hemorrhage; and he attributes the success to the precautions already given in ergot, also in rupturing the membranes as soon as the hemorrhage is suspected, and guarding against long curved forceps which so often do harm to the cervix. He reiterates the danger of a constantly small trickling stream of blood, which is so much less likely to alarm a novice than a great flow, but which is far more dangerous; and should this go on to collapse, do not hesitate to use hypodermic injections of ether, these being much surer than cerebral stimulants, and safer than transfusion of blood; unless it be auto-transfusion, which is often of great value. We ought not to close this topic without referring to the special manner in which a uterine enema of the persulphate of iron should be conducted in order to avoid its passing the fallopian tubes, and causing venous, cardiac, or pulmonary embolism: 1st, free egress should be kept up; 2d, no force should be used; and 3d, a coarse spray instead of a single stream should be continued just long enough to allow the styptic to trickle gently over the uterine walls. Dr. Glynn Whittle (Dublin J. Med. Sc. February, 1880) not only indorses the ergot in such cases, but he also adds that it will often save a woman the forceps delivery. He says no small doses should be trifled with, but a dose given at once as high as two fluid drachms; but never give it until labor be so far advanced as to permit of its completion if necessary by forceps. Should the placenta be morbidly adherent, danger of complications will be greatly augmented by *post-partem* contractions, due to the ergot.

Dr. Carr says: "In the forty-five years of obstetric practice I have lost one case by placenta prævia, having had five cases in all, — one the present year, saving both mother and child, very unexpectedly to all present. The child was several weeks at death's door, as was the mother also, but both gradually crept up."

It is hoped Dr. Carr will favor us by stating the methods of his treatment.

The next is the most mooted question in the obstetrical section of the American Medical Association, — the treatment of puerperal convulsions. There is no question on the tabular form which inspires us with so much awe as does this.

Many recommended morphia subcutaneously, chloral, veratviride and chloroform; but nearly all who expressed themselves directly added that in case these remedies failed, and the condition of the patient warranted it, they should bleed. And where many have already bled the results sound out in almost a refrain of "recovery, perfect recovery, complete recovery, recovery without an untoward symptom," etc.

The conditions included under the term puerperal fever have been treated principally and very successfully by opiates, quinine, digitalis, turpentine, hot fomentations and disinfection. Dr. Parsons speaks of hot vaginal enemata, which we should consider desirable. No mention was made of benzoate of soda, which we would specially recommend in combination with quinine. It not only facilitates the tolerance of this drug, but assists in overcoming the fever.

The treatment of phlegmatia dolens is generally to elevate the limbs, and employ inunctions. One mentions potassium chloride; to administer tonics and give a supporting diet. Very little mention is made of bandaging. In adopting the latter we would invariably use one roller of cotton flannel wherever we used one of rubber, and on no condition allow the rubber to come in contact with the cuticle.

We believe with Dr. Wason of New Boston that mammary abscess is often due to neglect — by the nurse, and sometimes by the physician. We believe prophylaxis first in importance, but where this fails the general treatment throughout the state seems to be directly opposite to that which, with one exception, we have always employed with excellent success. In the exceptional case the anæmic and phthisical condition seemed to indicate more the treatment adopted by the generality of practitioners; *i. e.*, to poultice, incise freely, administer tonics, some alteratives, and finally strapping. But although the result was good,

yet we do not consider it as entirely satisfactory as in some former cases where we used nothing but iced napkins, re-applied every few moments to reduce the inflammation. Those who have never tried this treatment with an angry, ominous breast will, upon adopting it aright, be astonished at the entire satisfaction derived therefrom.

Whenever a lady engages us previously to her accouchement, we never allow her to approach full term without ample preparation, and such cases have never troubled us. An excellent prescription is as follows: Spirit vini galici, glycerine, each two fluid ounces, and galic acid two drachms. Mix by gentle heat, then add alcohol in sufficient quantity. Apply externally.

Treatment for obstinate nausea seems to consist principally in "perfect rest" (?). with bismuth, pepsin, ingluvin, conium, potass. brom. per rectum; cerii. ox. in two-grain doses three times a day; dilatation of os, and painting with iodine. One case was particularly interesting, reported by Dr. L. Pattee of Manchester. Here all the usual remedies failed, and death through inanition was imminent. Finally she aborted about the sixth month, and on passing the finger into the uterus it was found to be almost as thin as a piece of moist brown paper, and so friable that it was with great peril that the placenta was detached.

Another interesting case was reported by Dr. Walker of Concord. Here argent. nit. was applied to the os; subcutaneous injections of morphia and artificial labor. Death occurred on sixth day from embolism, and to our regret no *post mortem* was allowed.

One case was reported as much benefited by minute doses of tartar emetic. Iodine to the os in case of previous ulceration has proved an efficient remedy; also potass. brom. and chloral hyd. per rectum. A few physicians, however, have seriously condemned the two latter remedies, asserting them as very irritating to the rectum. In reply we must say that we never used them with any but gratifying results. However we would never advise them administered in aqueous solution, but either in oil or flaxseed tea.

An emulsion of an egg, one tablespoonful of oil, and one-half pint hot water (afterwards cooled to tepid degree), with from

twenty to thirty grains bromide of potassium, is not only anti-nauseating, but very nourishing, and thus meets two great indications in one administration. Hot water is not used very extensively in parturient cases as a styptic, but where it has been employed it is highly esteemed.

In retarded delivery of placenta where there is no pressing symptom, we cannot commend too highly the words of our president. He says: "It should be left to nature as much as possible;" and adds, "there is too much haste generally." The majority report as waiting ten or fifteen minutes, but there are many who say they do not wait at all. One physician of large practice says: "I used to deliver immediately, but I think I have learned better. Other symptoms being right, I let it alone for nature to expel, and in every case my patients have done better and gotten up much more quickly." Realizing the great inconvenience in country practice of waiting from two to three hours, yet we do not consider this too long a time in which to allow the uterus to overcome the inertia occasioned by a difficult and protracted labor. If obliged to leave after this time, we should not go far away without extracting it and remaining long enough to insure a safe, permanent contraction of the uterus. Internal hemorrhage is so consequent upon retained placentæ that we cannot be too faithful in preventing it.

In extracting from the uterus, Credé's method is very popular, — from the vagina — simple extraction. But little mention is made of placenta forceps, and thus far in experience we do not approve them. One case in particular where uterine inversion was threatening, also in two others of hour-glass contraction, we believe our patients would have been seriously if not fatally injured by any instrument less intelligent, or less directly applicable to the bleeding surfaces, than the hand. It has been suggested by prominent authorities that the morbidly adherent placentæ are usually attached to the fundal extremity. So firm has been the adhesion to this site in our own cases as to require nearly all our strength in detaching it *en masse*, at which we always aim. In such cases particularly one should place the left hand on the outer wall, assiduously watching any irregular rythmical contractions likely to terminate in inversion of the uterus.

One case accompanied by a most alarming hemorrhage nearly resulted in inversion, and were all reported we would probably find this accident preceded by delivery, as stated by Barnes and Athill.

A few tie the funis immediately, but more than ninety per cent express the importance of waiting until respiration is established, also the closure of the foramen ovale, and some say until the child cries. We not only indorse the first two, but we believe that infants thrive much better for gaining a slight amount of blood.

In tying the funis none speak of the caoutchouc ligature, which has been highly recommended on account of hemorrhagic and inflammatory conditions of the navel. Dr. Carr reports a case where the funis was only five inches long, and the placenta being attached to the fundus the child was balanced in such a way as to cause a foot and hand presentation, rendering the diagnosis exceedingly perplexing. Another cord was reported as having been only eleven inches, while another was two and a half yards, and wound once around the neck and three times around the body; child was born asphyxiated, but did well eventually.

One case is reported as weighing only four and a half pounds, another thirteen, the same physician speaking of one a few years ago that weighed fifteen pounds. One case was reported as having been born so rapidly and easily that the membranes remained in situ, and were ruptured as quickly as possible by the attendant, as the placenta also followed, endangering the child to suffocation.

Version by external manipulation has been somewhat practiced, but in cases of impaired nutrition through prolonged nausea or any other debilitating effects, as diabetes, we would not advise its attempt.

The majority believe in immediate operation for laceration of the perineum, only about ten expressing need of sometimes waiting. We were of the former class until through the courtesy of Dr. L. B. How we were permitted to see a case where after a protracted labor the parts were so enormously swollen as not to admit even of serrafines, to say nothing of sutures, for at least twenty-one days. This patient, however, was having intercur-

rent troubles that greatly complicated the case. In this operation we believe in thorough denudation of the surfaces, and the placing of deep sutures, as beautifully illustrated by Dr. M. E. Allen of Philadelphia.

The question in reference to anæsthetics should have been differently asked. However, from the answers we judge that our practitioners not only believe in, but that they adopt anæsthetics more and more as time advances, not so much for complete insensibility as for a relaxing effect, ether and chloroform holding about an equal popularity with the masses. Always weighing carefully any contra-indication, we have employed the two about equally, with this distinction: that ether should be preferred in the dilating stage, and chloroform in the expulsive stage, the latter in some cases with special reference to depleting the brain. Just here a word in reference to the different stages of labor. We are astonished to find some physicians making the dilatation of the os the termination of the first stage of labor. This was ably discussed the present year at the American Medical Association, and it was there stated that about three in thirty of Americans adopted this division. But it was ably proved that the size of the os was no criterion of the true amount of dilatation, and nothing short of the rupture of the membranes should form the boundary line. Just here there often follows a most important indication for anæsthesia, especially in protracted cases, where too small an amount of fluid just at the location of the cervix causes improper dilatation. Ether hastens the relaxation, and especially in long, tedius facial presentations we would always use it if no organic lesion contra-indicated. Dr. Claiborne of Virginia reports two hundred cases where he has used chloroform with the most flattering results. When asked to cite cases where he would not give it, he wittily replied, "In painless cases, as they need no further blessing." With Dr. Campbell of Georgia he emphatically expressed his approval of chloroform in combination with large doses of potass. brom. as depleting agencies in cerebral congestion. Both would be cautious in cardiac affections as well as cerebral anæmia. All honor to the gentlemen who argue the need of anæsthesia for relieving the terrible agonies of childbirth, so graphically described by them, and "such as only God

and the women know*." But we cannot go as far as they did, also as far as the Vermont and Virginia physicians, who cited the case of a mother of fourteen children to illustrate the freedom with which they should hereafter administer it.

Opiates near delivery should be exceedingly guarded. That they have important indications cannot be gainsaid; but that their exhibition in child-birth and during gestation is causing an immense increase in the opium habit cannot be disputed.

Had we time we would like to develop this subject more fully, but as our paper is double the length it ought to be, we must pass it with a few simple remarks. No one is justified in any longer asserting that the opium habit is incurable, or, if curable, it is through a process more distressing than death itself. Indeed, we have seen five habitués cured with their nursing babes by tonics as painless and as thorough as any specific that could be mentioned for retarding the pulse or reducing the temperature. Instead of suffering, the patient at once commenced to feel better, and if the tonics be persevered in sufficiently long, no more appetite will remain for the opium than as though it had never been tasted.

In case of a syphilitic mother or parentage, we believe the child *in utero* as amenable to treatment as after birth. There will be some unsatisfactory results in either case, but as a rule we have no disease responding more decidedly to treatment than this. Thanks to Prof. B. F. Wilson of Philadelphia for instructions that have been more to us than whole libraries in the treatment of this disease.

Living near our home is an adopted child with all the characteristics of inherited syphilis under control. His mother consulted us to prevent miscarriage very early in the term. She was a good Catholic, but had been exceedingly unfortunate in her last marriage, and when she first entered our office she was a most repelling victim of syphilitic disorder. With the assistance of her church we had her isolated and treated most heroically. She carried her child to eight and a half months, when she was delivered of a boy who is now eight years old, but who never had a tooth in his head, nor a lash on the eyelids. We consider

* Mrs. Whitney in Hitherto.

that child (and his mother, who left her husband and recovered), a living monument to hydrarg. chlor. corros. and potass. iodid. This was within our own hands, but we have seen more brilliant results in the practice of others.

As a state we are, happily, quite free from this the worst malady on earth save leprosy. When it does occur it is usually in a very severe form, and in obstetrical practice is so far reaching in its effects that we are doubly responsible in treating it. So insidious is it often in early infancy, that as a point of justification to ourselves we should never vaccinate a child (unless there be an epidemic of small pox) under six months of age, as it is at this period that the nasal symptoms and an ominous rash usually appear, the parents invariably blaming the physician for using impure vaccine virus, whereas the real cause too often lies at the door of one or both of themselves.

The question asking the treatment for a rigid os was inserted by special request, and several have expressed eagerness to know what the replies would be. Those reported are gelsem, from fifteen to thirty drops, opium, chloral, hot water, belladonna, ether, chloroform, digital dilatation alone, and with opium per ovem, small doses morphia given at intervals of one-half to one hour, ipecac and chloroform together, ipecac alone in minute doses, hot water per rectum, tartrate of antimony, time, patience; one says use sweet oil and glycerine and rest yourself; another says an enema of tr. lobelia per rectum and chloral hydrate per ovem.

Drs. Carriger of Kentucky, Saltillo of Mexico, and Pitkins of New Jersey, all testify to the action of ipecac as a true oxytocic, and as Dr. Pitkin solicits testimony in reference to its acceptance we take pleasure in being able to report that many in our state speak highly of it.

The worst case reported was where a primipara had been in labor four and a half days, no other abnormal symptoms existing. The labor was reported as having been so severe (although chloroform was given several times) as to exhaust two physicians and two nurses who alternated in attending upon the patient. Both physicians concurred in opinion that the rigidity of this os resulted from cicatrices formed by application of argent. nit. for ulceration previously to pregnancy. Nothing in this case seemed o effect much but time. The child was sacrificed.

Do you use disinfecting enemata in the lying-in state? forms the third important topic of discussion. Out of my forty-six answers comes an emphatic "No" from twelve, an unmodified "Yes" from only two, while the remaining thirty-two are all extremely guarded, never using them in what they term a normal case, the most of them expressing the greatest need of thorough cleanliness in the clothing of the accoucheur patients and their linen, the nurse especially, and the instruments of delivery. Two express themselves in almost identical words, indicating the opinion of the majority in saying, "We do not believe in the indiscriminate use of enemata in the lying-in state; we make use of them only in exceptional cases; we have reason to believe that they may be in some cases the exciting causes of fever and local inflammation."

When used, the fountain syringe is greatly preferred, and acid carbol. seems to take the lead, although sod., chlorid. potass., permang, Condie's fluid, warm water by irrigation, (?) sol. brom., aluminum on napkin, all have certain indications.

The last question, What does a high temperature (viz. 103°, 104°, or even 105½°, unmodified by minor local lesions) indicate during the first week of the lying-in state? was also inserted by special request, and has already elicited much attention orally expressed, although many have hesitated to write an opinion on this subject. A physician and druggist especially mentioned cases in their own families, while one specialist spoke of quite a number in his own practice. Some of the answers given have been, "septic poisoning," "inflammation, septicœmia or both," "pueperal fever," "blood poisoning," "generally some serious complication," "trouble," "look out for breakers," "to be on the watch," "toxæmic," "probably septic," "may be caused by disturbances caused by secretion of milk," "several things," "it may be serious or not, often it does not indicate anything in particular," "it may or may not indicate danger ahead," "should think it would indicate serious trouble, look out for complications under such temperature," "do not understand what would cause a rise in temperature if there were no local lesions except milk fever, or puerperal fever might, but would be rare without some lesion, but might be caused by blood

poisoning." These are the answers to a few, while the majority favor septicœmia, the next in number puerperal fever. We will now commit it to the consideration of the society.

[The committee on publication regret very much that the size of our volume compels them to abridge this most excellent article, as there was much time and labor devoted to its preparation.]

DISEASES OF THE EYE.

BY S. M. DINSMOOR, M. D., OF KEENE.

Mr. President and Fellows:—

In all my examinations of our transactions, covering a period of some fifteen years, I have not found a paper bearing in any way upon the subject of Ophthalmology; yet its importance cannot be overestimated, and as general practitioners of medicine and surgery we are often called upon to treat many of the more common forms, at least, of eye disease, and the preservation or loss of vision may depend, in many instances, upon our treatment promptly applied. My best thought and most careful study have been directed in this channel for a number of years, aided by special courses of instruction with Profs. Thompson and Norris and their assistants at Philadelphia during the autumn and winter of 1880 and 1881. I therefore make no apology for asking your attention for a short time to one branch of this subject, viz., conjunctivitis, as we are called upon to treat cases of this class more frequently than all other eye diseases. Out of one hundred and thirty-six cases of diseases of the eye which I have treated wholly or in consultation during the last three years, nearly seventy per cent belonged to this class. I speak of this, then, because no form of eye disease can claim so large a share of attention as the affections of the conjunctiva. A consideration of the diseases of the conjunctiva presupposes a knowledge of its anatomy and physiology, and any one aiming at an intelligent treatment of this, as well as all other eye diseases, should make himself familiar with such authors as Metz and Landolt, for without such knowledge no one could suitably apply remedial measures.

Conjunctivitis, for the most part, is, in its early stages, an extremely simple disease, but behind it lurks serious danger, and

every physician should stand ready to meet or avert it. A very large proportion of blind people occupying asylums or begging a precarious living are blind as a result of conjunctival inflammation. Case: Called to a neighboring town about the middle of last January to see a gentleman aged seventy-five years, farmer by occupation, from whom I learned the following history: Some three weeks before, while at work in a strong draught of wind, and taking a sudden cold, some foreign substance temporarily lodged beneath the lid; his left eye became slightly inflamed. He awoke in the following night with a very uncomfortable sensation in the eye, and was aware that the soreness had increased since the evening before. In the morning there was some adhesion of the lids. Domestic treatment was resorted to, and at the end of the third week, when I saw the case, more than twenty different applications had been made to the eye. At this time there was complete opacity of cornea with deep central ulceration, made so, no doubt, by the constant rasping of the terribly inflamed and neglected conjunctiva, the whole surface of which was swollen and granular. Under judicious treatment the inflammation was after a time arrested; but as a result of neglect and worse than useless treatment before I saw the case, he will always have a sightless ball. A similar case, with like disastrous result, came under my notice since our last annual meeting, which was treated by a quack by the name of Barron until the eye was completely ruined. This man Barron is well known in Hillsborough county, and a part of Cheshire. He was once arrested at Keene under the law regulating the practice of medicine and surgery, but I believe was discharged by the police justice after swearing that he was only a nurse.

Perhaps I might say a few words right here in relation to the domestic treatment of these cases. However judiciously used the so-called simple remedies may be in other branches of medicine, they are usually the worst possible thing in eye cases. The ingenuity displayed in hunting up or devising a great variety of substances with which to dose and poultice the eyes would be a source of amusement if their effects were not so disastrous. I have known or read of such applications to the eyes as wet cloths, wet bread crust, tea leaves, alum curd, lungs of various domestic

animals, raw beef, raw oysters, gizzard of domestic fowls, urine, milk, molasses, tincture of arnica, plantain leaves, every conceivable kind of a poultice, etc., etc. I knew some years since a physician having a large general practice, whose favorite prescription for inflamed eyes was a curd made from milk, by adding acetate of lead. Each of these remedies is bound over or poured into the eyes, each with reputed specific virtues, and regarded as a simple and harmless remedy. If these remedies were persistently applied to perfectly healthy eyes for two or three days, it would probably take weeks to recover from their effects. If this be true of healthy eyes, how much more serious might be the consequences when applied to the already inflamed conjunctiva.

Added to the dangers of domestic treatment is the use of remedies prescribed, it may be, by eminent oculists for entirely different conditions. To illustrate: Mr. A goes to Boston or New York from some New Hampshire town for treatment of some ocular defect; a prescription is given by Dr. Derby, Dr. Williams, Dr. Roosa, or some other oculist. On Mr. A's return he will be sure to bring a copy of his prescription with him, and forthwith a dozen of his neighbors are using this same lotion for all sorts and conditions of sore eyes. Lulled by the supposed virtue of this lauded panacea, irreparable danger and perhaps loss of vision follow in some of the cases, as people do not appreciate the fact that scarcely any two cases require precisely the same treatment. A case came under my observation the past year, where a lady came near losing an eye by using a prescription of an excellent oculist, given a friend of hers for an entirely different condition. For this reason I have often been in the habit, when treating eye cases, either to furnish my patients with medicine, or to mark my prescriptions with the capitals "N. D.," which the druggist is to understand means, " No duplicates."

One of the best oculists of Philadelphia, Prof. Samuel D. Risley, teaches that all the more frequently recurring forms of conjunctival disease should be classed in three groups, catarrhal, strumous, and symptomatic; that their differential diagnosis is possible and important; that the treatment necessary for their cure is essentially different. Having seen him in hundreds of

cases demonstrate these forms of the disease, it will be my purpose to speak briefly of each group, as to its etiology, symptoms, and treatment.

"In the first group, the catarrhal, are included all those cases which in consequence of exposure to cold, or irritants, commence with hyperæmia of the conjunctiva and increased flow of mucus, and may pass with more or less rapidity into inflammation, manifesting at different stages all its varied phenomena." In this catarrhal group we would include the purulent, the gonorrhœal, granular ophthalmia, chronic granulations, also the ophthalmia of infants. These are all essentially the same in their etiology and are liable to pursue the same pathological history. Taking cold may be a frequent cause of conjunctivitis, but it is most likely, however, that irritants of some kind coming in contact with the delicate membrane are the usual cause. One writer mentions the case of a detective, whose duty required him for some time to look through a key-hole, thus bringing on a severe attack. The slight dryness, redness with slight adhesion of the lids, may pass off in a day or two by rest and bathing. So favorable a result, however, often does not follow, but rather all these early symptoms may be rapidly intensified ; the conjunctiva becomes thickened and opaque, so that the meibomian glands are hidden from view. The eye feels as if some foreign body was lodged beneath the lid, and it sometimes takes much persuasion to convince our patient that such is not the case. The membrane at this stage looks intensely red, and the mucous discharge is now followed by a profuse purulent discharge. The cornea, receiving its nutriment from the loops of blood vessels which terminate at its border, soon begins to suffer in its nutrition, from pressure on its blood supply. It becomes at first slightly opalescent, which soon deepens into complete opacity, and finally necrosis. Such, in a very brief outline, is the course a case of catarrhal conjunctivitis may pursue. The rapidity of its course depends very much upon the character of the irritant applied. Gonorrhœal matter applied to this membrane may be so virulent in its type as to destroy the eye in from twenty-four to thirty-six hours, unless it be treated vigorously and well. A gentleman under my care suffered from quite a severe attack, caused by my dusting calomel

into his eye, while at the same time he was taking iodide potassium from another physician for some other disease, the fact of which I was not at the time aware. The daily application of less active irritants leads through much the same list of changes, though of course much longer in producing definite results. The treatment of this group of catarrhs which has given in my hands the most satisfactory results has been the persistent use of the milder mineral astringents, except in violent cases, where the cornea is rapidly endangered. In these, the careful use of caustics, with cold applications, has been added to the astringent treatment. Sometimes the application of one or two German leeches near the eye, or the use of the artificial leech, will be found invaluable ; also the instillation of atropia to guard against any possible adhesion of the iris. The caustic which is most highly recommended by the best authorities is the mitigated stick of silver nitrate, which consists of one part of the silver salt fused with two parts of potassium nitrate. In the treatment of chronic granulations, I am in the habit of depending mostly upon the sulphate of copper crayon, a remedy, by the way, which is sure to do irreparable injury if injudiciously used. A twenty per cent solution of carbolic acid* in glycerine, in some cases has been found to be a valuable remedy. I wish here to say just a word in relation to the use of solutions of acetate of lead, for I have known it used very extensively by reputable physicians, and also in domestic practice. I have seen several cases of opacities upon the cornea, made indellible from its use. It is a dangerous remedy, and Dr. Williams well says, "should be banished from ophthalmic use."

There is probably no disease of the eye which imposes greater responsibility upon the general practitioner than the well-known form of purulent conjunctivitis of infants. Carter says that more than half the blindness in the country may be attributed to this cause. There is a family living in the town of Weare having three blind daughters, probably made so from this disease, badly treated or neglected at first, at least I should judge so from the history of the cases given me by the mother. This disease usually commences a few days after birth. It may be caused by direct

*Nettleship calls attention, in using carbolic acid, to the importance of using only the purest article, a fact which ought to apply to every remedy used in ophthalmic practice.

inoculation with the maternal secretions, or by exposure of the new born eyes to excessive glare of light. A slight redness and tumefaction, with some mucous discharge, are not uncommon in infants, and usually yield to the simple means of thorough cleanliness; but true ophthalmia neonatorum becomes sometimes in a few hours an intense inflammation. The symptoms of this form of conjunctivitis are sufficiently apparent, so I will not devote time here in pointing out its various characteristics, but will refer more particularly to treatment; and here it will be found that the methods of oculists of celebrity widely differ. One thing is certain; so long as the cornea remains clear there is no special danger to vision, but this will not long remain so unless the case is well treated. The first point is to insure the most perfect cleanliness. The copious secretions should be often and thoroughly washed out with clear water, to which sometimes may be added boracic acid. This last coagulates the secretions, and then they are the more readily removed. This cleansing should be done several times a day, and also in the night, after which a solution of alum, three to five grains to one ounce of water, will be found very useful. This may be supplemented with an application of nitrate of silver, two to four grains to an ounce of water, once or twice a day as required. Should there be the least haziness of cornea, atropia solution should not be omitted. This plan of treatment, if followed out intelligently, will be found usually successful, but when of a venereal origin, the most careful and efficient local treatment will not always prove a success. I have seen cases of this kind treated by applications of solid silver nitrate applied to the inverted lid, and immediately neutralized by an alkaline solution, and this done every day for quite a while, and this, too, with good results, but I do not believe this harsh method often necessary or judicious, and may be attended with destructive consequences unless most skillfully done; moreover, the milder plan ought to be generally sufficient.*

A form of conjunctivitis due to rheumatism would have to be placed with the first group, since it more nearly resembles this than either of the others. A single well marked case occurred in my practice during the last spring. It was rapid in its develop-

* It is a cardinal principle in the treatment of this disease that every particle of secretion should be thoroughly removed from beneath the lids, and no applications are of the least benefit until this is done.

ment, and seemed to get better and then worse under various plans of treatment, just as the rheumatic condition happened to be. When the rheumatism was substantially cured, then it was that the conjunctivitis gave me no further serious trouble.

Dr. Maurice Perrin, about a year since, communicated to the Paris Academy of Medicine quite a number of facts tending to prove beyond a doubt the existence of a form of conjunctivitis due to rheumatism, and he has collected a number of cases from different observers bearing upon this subject. In this form the integrity of the cornea is sometimes seriously endangered in spite of the most skillful treatment. It will be pretty sure to be confounded with gonorrhœal ophthalmia whenever there is any urethral discharge, the violence of which it sometimes resembles. Rheumatismal conjunctivitis is not always purulent, and may, without changing its nature, affect the form of the simple catarrhal. The local treatment is by the use of the silver nitrate in mitigated stick or solution, and it will be well to add to this frequent lotions or spraying the eyes with alcohol and water, of the strength of one part to four of water. It should not be forgotten, however, that a constitutional treatment having especial reference to the rheumatic condition is of the utmost importance.

Last year there appeared an article in the "Ophthalmic Review," concerning the introduction of "peroxide of hydrogen" into ophthalmic practice. It appears from this article that it was first used by Landolt, who after extended and careful trial proved it to be of especial value in cases of corneal ulcer with purulent infiltration. In some cases of gonorrhœal ophthalmia it has been used with most excellent results. With the use of this I have had no experience, so am unable to speak of its value from personal observation, but intend to use it by and by.

Cadmium sulphate has been used by some with good results in catarrhal conjunctivitis. It is certainly valuable in some cases, as I have found by trial, used as a collyrium of the strength of about one grain to an ounce of distilled water.

The next group — strumous — includes those cases usually found among children of the poor, which present in a marked degree the so-called scrofulous diathesis. I have seen in New Hampshire only a very small number of cases of this class, but in the

large cities they are much more numerous. A typical case was under my care last year, of which I will endeavor to give an outline. The patient was a girl of six years, one of a large family, poor, and extremely destitute of all hygienic surroundings. There was an agonizing dread of light, so far as the right eye was concerned, which caused the child to bury its head in the pillow or its mother's lap. On forcibly exposing the face there was the most vigorous spasmodic closure of the eyelids; so much were the muscles contracted that the entire face was badly distorted. A considerable portion of the face was covered with an eczematous eruption from the scalding tears. By main force the lids were separated by a retractor, and although the case had continued for a number of weeks, the conjunctiva was *transparent*. Almost the entire surface of the conjunctiva was studded with minute elevations called phlyctenulæ, which nearly surrounded the cornea. These elevations differed in size from the finest point to those of larger growth, and some of them had the appearance of minute blisters, while upon the cornea itself was found a small ulcer, nearly central. The left eye was affected, but in a less degree. The intense photophobia, transparent membrane, the phlyctenulæ, in fact all the general symptoms, would at once place such a case outside the catarrhal group. Such cases, then, being entirely different, require a very different plan of treatment. Astringents and caustics here will do harm, and the cases will often get worse and worse under the use of a mild collyrium of alum. The most important element in the treatment of this group is to improve the general condition, and such a case will not get well unless we can do this. The best writers advise in these cases a full diet of fresh meat, fish, eggs with an abundance of pure milk, etc., and all the child will take of them. Never shut such a child up in a dark room, have the eyes shaded but never tied up, and require them to spend several hours of the day in the open air, and when in doors to play in a moderately lighted room. Especially is it important to use freely pure water — one of God's best remedies in all cases — by way of frequent bathing. Never allow such a case to be in a room contaminated with tobacco smoke. The iodide of iron is one of the best internal remedies, which after a while may be followed by potassium

iodide in small doses. By way of local treatment, so long as the photophobia and orbicular spasm continue, use daily sulphate atropia solution, and have the parents use a very much weaker solution of the same at home. As soon as the irritation subsides, a careful use of iodoform has seemed to hasten the cure, and at the same time a solution of corrosive sublimate, one-twelfth to one-eighth grain to an ounce of water, may be substituted for the atropia. In the case before mentioned I was enabled to carry out to a considerable extent the treatment here given, and the case did well after quite a long time. Williams advises the use of astringents in this form of conjunctivitis, but in my experience the treatment here outlined has been much more satisfactory.

The third group has been denominated *symptomatic*. The cases of this class are characterized by hyperæmia of the tarsal conjunctiva, and inspection shows through it the congested tortuous meibomian glands; the conjunctiva is studded with minute elevations, like small grains of whitish sand. Often the tarsal border will be thickened and scaly. The patient complains of weak eyes, by which is meant the inability to use them for near work for any great length of time, and if obliged to do so feels a burning sensation, scratching of the lids, or a periorbital neuralgia. If persisting in the close application of the eyes, all these symptoms become intensified, and may run on into serious inflammatory trouble, the cornea may become involved, the lachrymal passages become obstructed, and chronic granular ophthalmia be the result. These are the cases which will worry the doctor and cause the patients to have the blues. Under the usual treatment, if complete rest is enjoined, the cases may get well after a time, but the hope of permanent cure is blasted as soon as they return to their former occupation. As taught at the University of Pennsylvania, these cases are the results of defects of refraction and muscular insufficiency. The undue and constant strain upon the ciliary muscle brings about ocular congestion, which passes into pathological conditions. The treatment, then, and the only treatment which promises permanent relief is, after the inflammatory trouble is reduced by ordinary means, before resuming work, to correct any existing defect in the refraction by suitable glasses, and to obviate the insufficiency of the rectus muscle by operation or by prismatic glasses.

I have thus, gentlemen, briefly outlined some of the main features of conjunctivitis, also the treatment recommended by the best oculists. Much more might have been said in relation to my subject, numerous cases which have occurred in my practice might have been cited and the treatment detailed; but I fear too much of our time has already been taken, so I will now close, thanking you for your kind attention, and expressing the hope that my paper may not be without practical value.

RESPIRATORY IRRIGATION IN THE TREATMENT OF EMPYEMA.

BY DR. E. S. BERRY, DOVER.

Mr. President and Fellows:—

In calling your attention to the treatment of empyema, I do not expect to be able to add anything to its literature, or to the knowledge of the members of this society, but hope that by giving briefly the details of the treatment of a case of empyema by respiratory irrigation and discussing its comparative advantages, to bring out the larger experiences of the members present, that something may in this way be added to our general stock of knowledge upon this subject.

While we hail with encouragement the wonderful advancement that has been made in the different branches of medicine within the last few years, we are compelled to admit that as a general rule the progress in therapeutics has not kept pace with many of the other departments of medicine. Although Koch has discovered the bacillous tuberculosis and demonstrated its causative relation to that disease, no therapeutical measure has yet been devised to arrest its progress or check its destructive tendency, and phthisis still continues to furnish nearly twenty per cent of the deaths throughout the world. In typhoid fever and many other epidemic and contagious diseases, although we have a more definite knowledge of their causation and much has been done in the way of prevention, yet in the purely therapeutic management of cases there is great diversity of opinion, and no one course can be pointed out as furnishing markedly better results than any other. In empyema, on the other hand, the most notable advancement has been made in the therapeutical management within the last thirty years.

Prior to 1850 an opening was made into the pleural cavity only by a few surgeons, and then only as a last resort, and to avert impending suffocation. As illustrating the change which has taken place in professional sentiment in regard to tapping the chest, Dr. Bowditch relates the case of a man who in 1840 suffered from a large effusion, and although the dyspnœa was so great that it was plain that unless relief was obtained death would soon ensue, only one of eleven consulting physicians was bold enough to plunge in a scalpel at a prominent part; and he did it after much hesitancy, and when selected by the patient. Every one seemed to expect that the patient would undoubtedly die, and the sufferer called upon the physician he had most confidence would do it. When the opening was made and the pus spurted out the patient was somewhat relieved, and the physician who was supporting him asked how he felt; and upon his saying he was much better and wanted something to eat, his interlocutor exclaimed, "My God! he will live in spite of all of us." A prominent physician in Philadelphia said, in relation to this operation, that he would just as soon put a bullet through the chest. Another noted physician, Dupuytren, said, referring to paracentesis, that he preferred to die by the hand of God rather than by the hand of man. At this time cases of empyema were generally allowed to progress until the pus forced its way into the abdominal cavity, the bronchial tubes, or through an opening between the ribs, the latter constituting empyema necessitatis. In rare instances the patient made an imperfect recovery after years of suffering.

The invention of the suction instrument by Dr. Wyman, and the earnest advocacy of paracentesis by Dr. Bowditch in 1850, inaugurated a new era in the treatment of sero-fibrinous exudations; and from the fact that by this means an earlier diagnosis of empyema was rendered possible, and purulent change in the exudations often prevented, it was a great step in advance in the treatment of this affection; for, while the treatment of sero-fibrinous exudations by aspiration proved so effective, in empyema (with a few rare exceptions) the pus would re-accumulate and the final result be most unsatisfactory. As aspiration was found to be insufficient in these cases, the treatment by a free opening

into the cavity and frequent washing out with antiseptics was the course generally pursued up to within a few years. Of this method Prof. Osler of the McGill University says he has seen a good many cases treated by putting in a drainage tube and washing out the cavity with dilute carbolic acid or iodine; and yet, excepting in children, satisfactory results have been exceedingly rare. Fraetzel says of this method, that any one can appreciate the advantage of the Lister dressing who has seen, as he has, eighteen cases treated in this way, with only two recoveries, and one of these, after a tedious course of a year and three-quarters, with serious deformity of the thorax. The results of this plan of treatment in the hands of American practitioners appear to be better than the above quotations would seem to indicate, for Dr. J. G. Blake of Boston reported a cure of thirteen cases out of nineteen by drainage. This is by far the best recorded result by this plan; but it must be remembered that the cases treated in this way required months and sometimes years before the cavity was obliterated and the sinus healed, and the recovery was imperfect because of the deformity, resulting from falling in of the chest wall.

Within a few years another great advancement has been made in the treatment of this affection, and better results have been attained than ever before. I refer to the Lister dressing. Prof. Lister himself says of this method, that where it is rigidly carried out there are never any further secretions of pus, but only an abundant serous discharge requiring thorough drainage and a change of the dressings twice during the first twenty-four hours, then daily. Although the followers of Lister have not been quite so successful, yet the duration of the cases shows a decided advantage over free drainage without the antiseptic dressing.

Statistics show that empyema, formerly one of the most fatal forms of disease, has under the antiseptic treatment become an affection in which recovery in uncomplicated cases is the rule to which there are but few exceptions.

In view of the great advantage in duration and ultimate result that attends the Lister dressing, let us inquire what are the principles that underlie this method of treatment, and the objects to be attained by it. Hitherto it has been believed that the dress-

ing accomplished but one object, viz., rendering the cavity aseptic, and that, because this object was more completely attained by this method than by any other, better results followed. No attempt was made to exclude air from the pleural cavity, and no claim put forth that the Lister dressing did not allow the free access of air to it, but that the air which entered the cavity was rendered aseptic by the spray and gauze, and the walls of the cavity were approximated by a falling in of the chest wall to a greater or less extent; this result is even sometimes encouraged by resection of one or more ribs. Quite recently Dr. A.T.Cabot of Boston, in a paper read before Suffolk District Medical Society, and which appeared in the Boston "Medical and Surgical Journal" of August 16, 1883, claimed that the Lister dressing, when properly applied, fulfilled another important indication which has not heretofore been recognized, viz., traction or suction upon the compressed lung greatly aiding to restore it to its former volume, and thus approximate the walls of the cavity without deformity. This, he claims, is accomplished by the rubber protective or mackintosh cloth applied to the chest, which acting as a valve allows the exit of air from the pleural cavity during expiration and prevents the ingress of air during inspiration, thus exerting traction upon the lung. Dr. Cabot, in the article above referred to, reported fourteen cases treated in this way, with eleven recoveries and three deaths. Two of the fatal cases were complicated with tuberculosis; in the other, the effusion had existed for four years. The average duration of the cases that recovered was twenty-four days. He says that the expansion of the lung was ordinarily very rapid, and attributes the very excellent results obtained largely to this new principle in the application of the Lister dressing. Although great skill and care must be required in order to apply the dressing in the manner above described, nevertheless I believe that the introduction of the principle of traction into the treatment of empyema is another important advance in the therapeutics of this affection. May not the best results of the antiseptic treatment have been largely due to the unrecognized application of this principle? The several steps by which the treatment of empyema has made such wonderful progress and reached such a stage of perfection that recovery

is not only rapid but perfect, may be enumerated as follows: First, aspiration; second, free drainage and frequent washing out of the cavity; third, Listerism; fourth, the application or recognition of the principle of suction or traction to the compressed lung. Notwithstanding the great advantage and better results of the Lister dressing, the difficulty and expense of carrying it out in all its details place it out of the reach of the general practitioner and confine its use to hospitals. Authorities agree upon this point, and generally concede that the difficulties attendant upon a proper application of the dressing in private practice are almost insurmountable, and advise free drainage and frequent washing instead. Prof. Osler says that this is the only thing that can be done outside the hospitals. Dr. Dabney says that although Listerism is advisable in city and hospital practice, it is of doubtful efficacy in the country, and should under no circumstances be allowed to interfere with thorough drainage. At the present time no one would expect to cure a case of empyema by aspiration; for although a few cases have been reported in which pus has not re-accumulated after aspiration in young children, yet it almost always re-accumulates, and probably no considerable amount is ever absorbed, and the only alternative left for the general or country practitioner, according to the best authorities, is thorough drainage.

With the statistics of Listerism before us, I do not believe we have a right to subject patients in private or country practice to the protracted and imperfect recovery which results from the treatment by drainage, and unless some substitute for Listerism can be devised which more completely meets the indications that are fulfilled by this dressing than drainage as generally carried out, patients with empyema should be sent to hospitals.

It is the object of this paper to report a case of empyema treated by the so-called respiratory irrigation method, to discuss its comparative advantages, to show that it completely fulfills the indications that are met by Listerism, and to claim that, owing to the ease with which it is carried out, it is especially adapted to the treatment of empyema in general and country practice.

L. L., aged ten years, was not considered a very strong child, although he had never had any severe illness previous to the pres-

ent attack. I saw him first June 22, 1881, and learned that he had been sick about three weeks, in an adjoining town, with high fever and pain in side; it was said he had pleurisy; after the fever subsided he improved a little and was able to ride to Dover. I found him in a very feeble condition, greatly emaciated, able to sit up but little, poor appetite, dry cough, and night sweats. There was no great difficulty of breathing except on exertion or lying on left side. Temperature 101°; pulse rapid. Physical examination showed fullness, with no respiratory movement of right side, flatness on percussion throughout right chest. On auscultation exaggerated vesicular murmur was heard on left side, and a somewhat indistinct murmur on right side which seemed bronchial in character, probably transmitted from the other lung. The temperature was not high at any time, varying from normal to 101°, which led me to think that the effusion was probably sero-fibrinous. The dyspnœa was not marked, and under the use of tonics and stimulants the patient seemed to improve in strength and was able to walk to my office. I saw him occasionally for about two months, and at one or two examinations during that time I fancied that the fullness and flatness of the side were a little less. During the latter part of August the patient did not do so well; emaciation and loss of strength increased, and there was more bulging of the side; so September 1 I aspirated and drew off a quart of pus. This produced temporary relief; but the chest soon filled again, and the patient continued to lose ground. September 14 I made an opening in the sixth interspace on a line with the axilla, just in front of the edge of the latissimus dorsi muscle, with a trocar, enlarged it with a bistoury, and inserted the end of a rubber tube, cutting several fenestra in the sides of that portion of the tube which penetrated the chest, then the tube after leaving the chest passed through a rubber disk about five inches in diameter, which fitted close to the chest wall and held the tube in place. Over this was placed a Martin's rubber bandage which encircled the chest, the tube passing through this also. Then the tube, which was about eighteen inches in length, and on which was fixed a spring stop-cock, passed through fenestra cut in clothing, and opened under a solution of salicylic acid in a nursing-bottle which was carried in the pocket, a glass tube

being fastened into the end of the rubber one. A large amount of pus flowed into the bottle, which was emptied as fast as filled and not measured. The cavity was washed out by the attendants by pushing on the tube of a fountain-syringe over the glass tube, and filling the cavity with the disinfectant. The patient also, on putting a fresh solution into his bottle, which was done as often as the solution got turbid from the discharges, would elevate his bottle and syphon the contents into the chest; also with every respiratory movement the fluid could be seen to pass to and fro from the bottle to the chest. This was especially noticeable when the patient took deep breaths, at least a third of the fluid in the bottle going up during inspiration and returning during expiration. The salicylic acid was soon substituted by a solution of thymol, which worked much better. The patient immediately began to improve, was able to be in the open air a good part of the time, and gained in flesh and strength rapidly, so that when the tube was removed he was quite fleshy. After the insertion of the tube the patient required but very little care, as he was able to manage the tube himself, washing away all stagnant secretions by the syphon arrangement or by muscular exercise as in running, and when the contents of the bottle were seen to contain flakes of fibrine or pus, the stop-cock was closed, the bottle emptied and a fresh supply of the antiseptic put into it. The discharge diminished rapidly, and I am satisfied that the tube ought to have been removed in about four weeks; but from fear of removing it too soon and not expecting the cavity to close so quickly, it was allowed to stay about ten weeks, when it was removed and the opening healed in two or three days after.

The patient has been apparently healthy ever since. I examined him carefully about a year after the tube was removed, and was unable to detect any difference in the expansion of the two sides. The height of the shoulders was the same, and the respiratory murmur was distinct over all parts of the right lung. The Martin's rubber bandage produced an eczematous eruption beneath it and had to be discarded, after which the tube was fastened in with adhesive plaster. The treatment of this case was, with several important modifications, in accordance with a plan suggested by C. McIvor Goyder, Esq., senior house surgeon to Newcastle-

on-Tyne Infirmary, in an article in the "Lancet" of March, 1881, in which he gives an account of a case of empyema, in which, although it was treated antiseptically, pus continued to form in considerable quantities, in consequence of which he determined to more completely drain the cavity by placing the patient on the affected side with the wound lowest, at the same time inserting the end of a gutta-percha tube eighteen inches long just within the cavity, and allowing the tube to hang vertically downward through a hole in the mattress, placing the other end in a jar of sol. carbolic acid; object being to prevent entrance of air into the pleural cavity, and at the same time drain it. After watching the arrangement some time, Mr. Goyder says he was surprised to see the level of the fluid in the jar sinking during inspiration, and rising during expiration. He afterwards replaced the carbolic acid with Condy's fluid, put a glass tube in continuity of the rubber tube, and was gratified to see the pink fluid rushing up and down the tube at every respiration. Mr. Goyder lays down three essentials in the treatment of empyema. First, that the contents of an empyema should be kept aseptic and the absorption of septic material prevented; second, that the empyema should be irrigated in order to wash away stagnant secretions; third, that the walls of the cavity should be approximated in order to obtain adhesion. The first two of these essentials he thinks are attained by the antiseptic fluid and the self-washing which he describes; and I believe that these indications were as fully attained, in the case I have reported, by allowing the tube to penetrate the cavity and without placing the patient in the recumbent position, a modification which I believe must be a great advantage to the patient. The third indication or essential, viz., to approximate the walls of the cavity, Dr. Goyder attempts to fulfill by forcing in the chest wall by bandage and position. Although I attempted to compress the chest wall by use of the rubber bandage, in the first part of the treatment, I now believe this course to be entirely wrong in principle, for it must be admitted that a complete recovery or cure can only result in a restoration of the lung to its former volume, and the more completely this is brought about, the more perfect is the recovery. Any compression of the chest, then, must be regarded as operating

against a favorable result. How, then, shall we fulfill the third indication of Mr. Goyder, viz., to approximate the walls of the cavity? for it is an important one. I believe it to be fully and completely fulfilled by the traction exerted upon the lung by the weight of the column of water in the tube. Dr. West observes that if air be blown into a lung, some lobules of which are not duly expanded, it will permeate the collapsed air tubes, and the pulmonary vesicles will by degrees become distended; also it has long been known that the retractile force of the lung at its best is equivalent to a column of water thirty-nine centimeters, or about fifteen inches in height; therefore with a tube eighteen inches in length passing out of the pleural cavity, and opening under a solution of thymol, it is evident, if fluid passes up the tube with every inspiration, that a traction or suction is exerted upon the partially compressed lung equivalent to the weight of a column of water eighteen inches high. With every inspiration the diaphragm contracts, the chest wall expands (provided it is not prevented by bandage or other means of compression), air passes into the partially compressed lung, filling the bronchial tubes and that portion of the lung which is easily distensible; then, if this is not sufficient to fill the vacuum, the liquid in the receiving bottle passes up to supply the deficiency, and a traction is exerted on the carnified lung of a column of water varying in height according to the length of the tube, and tending to counteract the retractile force of the lung and restore it to its original volume. As this is done continuously with each respiratory movement, we may estimate the amount of traction upon the elastic lung tissue and the adhesions which limit its expansion during the twenty-four hours. This must contribute largely to increase the volume of the lung, and approximate the walls of the cavity. This force, I believe, can be supplemented with advantage by closing the epiglottis as in coughing, and forcibly compressing the chest walls. In favor of this method of treating empyema, I would urge the following reasons: First, all septic changes are prevented as completely by this method as by the Lister dressing; second, the important principle of suction is applied continuously by this method, and must be as effective in bringing about a rapid expansion of the lung as the Lister dress-

ing as applied by Dr. Cabot. In a paper read before the Dover Medical Society in March, 1883, I reported this case and urged in favor of the treatment by respiratory irrigation, that it fulfilled an important indication which Listerism did not, viz., suction or traction to the compressed lung, greatly aiding to restore it to its original volume. At that time no claim was or had been made by any one that the Lister dressing met this indication. Since then, Dr. Cabot, in the article above referred to, August 16, 1883, after a much more extended application of this principle (the principle of traction), gives strong testimony in favor of its great value and importance in bringing about a rapid expansion of the lung; third, the constant irrigation of the suppurating cavity, by which flakes of fibrine and purulent clots are washed out, must be as effective, at least in keeping the cavity free from these irritating substances, as the occasional washing by the other method; fourth, the greatest advantage of respiratory irrigation over Listerism, aside from the great expense of the latter, is to be seen in the care and attention required in its management. Fraetzel says of Listerism that one case requires endless time and trouble. By the method I have described the expense is reduced to a minimum, and the after treatment and attention are comparatively nothing. For these reasons I believe that the treatment of empyema by respiratory irrigation commends itself to the attention of the busy general practitioner.

THE TREATMENT OF PHTHISIS.

BY S. C. MORRILL, M. D., CONCORD.

In view of the dissemination of phthisis throughout all zones, and the percentage of deaths resulting from this disease, it is a most unfortunate circumstance for the promotion of therapeutics that it is generally regarded as incurable.

The ordinary treatment of consumption has reference to individual symptoms; namely, emaciation, cough, high temperature, night-sweats, and diarrhea. Cod-liver oil and a daily allowance of from four to eight pounds of slightly cooked beef, with hot water for drink, or a diet composed largely of milk, with eggs, beef, mutton, bread, fruits, and vegetables, are expected to check emaciation and cause patients to gain in flesh. Chloroform by inhalation or taken into the stomach, with or without small doses of morphia, is most highly approved for relief of cough. From six to twenty grains of quinine at a single dose daily may be depended upon to reduce temperature, excepting, perhaps, the high temperature of phthisis florida. Atropia and nux-vomica internally, aided by alcohol with glycerine or vinegar, combined with powdered capsicum, externally, are perhaps more useful than other remedies in relieving night-sweats. Coto bark, liquid extract bela with tincture of opium, or pills containing a grain of tannin and from a third to a half grain of powdered opium, preceded or followed by a few doses of viburnum comp. in hot sweetened water or brandy and water, will check most cases of diarrhea. Patients are advised to exercise and remain in the open air as much as possible, and to seek a residence where the soil is dry and porous. Recent investigations indicate that the apparent immunity from phthisis enjoyed by the inhabitants of elevated plains and high mountains does not depend upon atmospheric

pressure, but upon the absence of organic matter and germs at these altitudes. In general it may be said that phthisis is not hastened in its development by low temperature nor prevented by a high temperature.

Local rest or complete rest is regarded by most physicians as important in all cases of consumption, during periods of high temperature; but there are only a few advocates of this method of treatment while the temperature is yet moderate.

The London "Lancet" of October, 1873, contains a contribution from Dr. Berkhart, urging the necessity of limiting the movements of the lungs as much as possible. "Affections of the joints," he says, "bear a close resemblance to those of the lungs, both taking on diseased action under the influence of the same diathesis. Movement is to either of them a cause of increased irritation and inflammation. If we can figure to ourselves the aspect of a recently inflamed apex with its bright red color, its distended vessels, its stroma infiltrated by a gelatinous substance which chiefly consists of cells of varying shape, and its epithelial lining exfoliated, we can form an idea what disastrous consequences must arise from the continual straining of such part and from the contact of its denuded surface with the fresh irritants contained in the air."

The observations of Rokitansky and others seem to prove that malformations of the chest, narrowing the thoracic spaces, or disease of the heart entailing a deficient arterialization (of the blood) and an habitual preponderance of venous blood, forever root out the tubercular crasis. The fact that boating men and athletes often die of consumption is significant in this connection. Any fear that a consolidated portion of the lung may disintegrate more rapidly when resting as much as possible is unfounded, and disproved by clinical observations and experiments upon animals.

Under date of January 16, 1869, Dr. Risdon Bennett reported cases treated at Victoria Park hospital by rest and diet only. Patients suffering from decided phthisis often improved very much while they were in this hospital. They gained flesh, appetite improved, night-sweats vanished, cough was less troublesome, pulse and respiration diminished in frequency, and strength increased. In-patients without medicine improved more rapidly

and to a greater extent while in the hospital than as out-patients with tonic medicine and cod-liver oil.

In confirmation of Dr. Bennett's method of treatment, I may be permitted to cite the case of Mrs. C——, to whom I was called October 1, 1878, to prescribe for a troublesome cough, loss of appetite, emaciation, night-sweats, and all the physical signs of catarrhal phthisis in the second stage. I had never seen any decided relief from such symptoms, and accordingly felt almost sure she would die within three or four months. The lady was ordered to go to bed, to drink from three to four pints of milk daily, to take a moderate quantity of raw-beef juice, and two or more raw eggs beaten up in milk with wine. At the end of four months she began to gain in flesh, and when allowed to get up after seven months of complete rest, she was almost corpulent, weighing more than ever before. She coughed but slightly, and expectorated almost nothing. She had a large, almost perfectly healed cavity in the left lung, and a small cavity in the right lung. During the summer she continued to improve, and resumed her family cares in the early autumn, continuing to enjoy fair health, in spite of very distressing domestic complications, until the fall of 1880, when her cough returned. Emaciation, symptoms of new excavations slowly crept on, and she died near the end of May, 1881, two years and eight months after she was sent to bed. But for prolonged mental worriments and negligence of the ordinary laws of health, this woman might have been living to-day.

My experience with this method of treatment in similar cases to the one here cited leads me to suspect that complete rest in bed, aided by systematic feeding and as pure air as can be had, is of the highest importance in the treatment of this disease. Indeed, I am convinced of the possibility of curing by this method many cases otherwise incurable, and that many incurable cases treated in this way suffer less and have longer periods of relief from their most troublesome symptoms.

REPORT OF GYNECOLOGY.

BY EZRA MITCHELL, M. D., OF LANCASTER.

Gentlemen of the New Hampshire Medical Society: —

The principal object of this report is to contribute our mite towards estimating the true value and results of Trachelorraphy and Perinæorraphy. Another as important an aim is to present to this society Dawson's method of doing these operations, so modified that dangers to the patient are lessened and the benefit increased, and so simplified that any practitioner of ordinary skill can do them with as good results as a specialist, and taking them out of the list of difficult, complicated, and doubtful surgical procedure, thereby giving many a woman the *only* chance of regaining her health and usefulness.

This report embraces twenty-three operations in all, and one other case of uterine disease, introduced here for the pupose of illustrating its effects on remote organs at times.

These operations were all done in the months of August, September, October, and November, 1883, in Coos county, by Dr. B. F. Dawson, professor of Gynecology in Post Graduate School of Medicine, and assistant surgeon to the Woman's Hospital, New York, and by Dr. Mitchell of Lancaster. Sufficient time has elapsed to enable us to form a correct judgment as to the value of the results.

Case No. 1. Mrs. F, very fleshy woman, forty-five years of age. First child was born at thirty-six or thirty-eight. Tedious labor and forceps delivery. The cervix and perinæum were badly torn. She has had one child since, about two years ago, following which she had a very severe attack of puerperal

fever. She has suffered nearly ever since the birth of the first child with procidentia. The uterus would protrude four or five inches, and she has been obliged to wear a sponge and towel. Various pessaries have been tried, but without success, as none could be made to stay in place. For a few days before her menstrual period the organ would remain in its normal position without assistance. At the time of the operation the uterus was very large from subinvolution and hyperplasia, the inside measurement being five inches; the cervix was hypertrophied fully two inches long, correspondingly thick, and badly torn. Dr. Dawson performed the operation outside the body; I think his first case of the kind.

He removed with scissors the mucous membrane and more or less tissue on each side the os, — cutting boldly, — and was very careful to take out all the cicatricial tissue in the bottom or corners of the laceration, making two round holes on each side of the os, and a little deeper than the original tear. The wound was then closed by six silver wire sutures, which makes the cervix of perfect shape and appearance.

The patient was then turned on her back and the operation for restoring the perinæum was made as follows: A narrow strip of mucous membrane from its outer edge was removed by curved scissors, beginning at a point as high as the commencement of the rupture and carried around to a point directly opposite. This was repeated up to the rectocele formed by the prolapsed posterior vaginal wall, and then on each side of it well up into the corners. No part of the rectocele was denuded, as is usually the case. Silver wire was used for sutures. The points of entrance and exit of the first one divided the external border of the denuded surface into three equal parts. The second stitch was put in from one-fourth to one-half an inch higher up. The needle was introduced into the skin just beyond or outside the freshened edge, carried under or through the tissues, being careful to avoid the rectum, the left fore-finger being in it, brought out through the sound membrane at the lower part of the rectocele, put into the same place and carried through the tissues, bringing it out at a point on the right side corresponding to the point of entrance. The second stitch was taken in the same manner.

The third stitch was superficial. Three sutures only were used, and by this method of denuding and putting in the sutures the posterior wall of the vagina was brought high up into the wound when it was closed, this restoring the perineum and normal curve of the posterior wall.

The radical difference and particular improvement of this method over others is the manner of denuding and in using only two deep and one superficial suture, thus avoiding the formation of abscesses, so common when more stitches are used, and constrict the tissues to such an extent that suppuration not infrequently occurs.

Unfortunately in this case some fecal matter got into the wound as the second stitch was being taken, and although the parts were cleansed union occurred only as high as the first stitch. The operation I have attempted to describe is known as Dawson's. This patient made a good recovery and no unfavorable symptoms, except some slight hemorrhage two or three days after the operation. In eight days the sutures were removed from the perinæum, and she set up on the tenth. She was able to be around on her feet in two or three weeks. The uterus prolapsed so the cervix protruded, owing to the failure of the second stitch to unite. The sutures were removed from the cervix in twenty-one days; result perfect. At the present time, the condition is healthy normal cervix. Uterus not as large as before the operation, but is prolapsed so cervix protrudes if a towel is not worn. On the whole the patient received some benefit, and the principal cause of cancer of womb removed, which, if for no other, is a sufficient warrant for the operation; and but for the accidental infecting of the wound with fecal matter, no doubt would have been a perfect success. This was the only case of failure in any degree. She will have the operation repeated.

The same general method was followed in the other cases, and where it differed I will mention the fact.

Case No. 2. Mrs. H. H., aged about twenty-six, married young, has three children. Instrumental delivery in the first labor. She is a delicate, nervous person, and suffered much from backache, headache, abdominal tenderness, leucorrhœa. The cervix and perinæum were lacerated badly. She has been disa-

bled from all or nearly all labor and exercise for several years. Both operations were done by Dr. Dawson in thirty minutes; speed being in this, as in many surgical procedures, an important item. She made an excellent recovery. The perineal stitches were taken out on the eighth day. She sat up and walked on the ninth. The sutures were removed from the cervix in four weeks. Result was perfect. The patient was much benefited from the first, but for a few months an anteversion pessary was used. Her physician now reports her as well of her uterine disease.

Case No. 3. Mrs. R. P., housekeeper, aged forty-five, has had five children. This is a case of fifteen or twenty years' standing. The cervix was extensively lacerated, hypertrophied and indurated with much cicatricial tissue; the posterior lip eroded and large, uterus large and retroflexed. Inside measurement four inches. Perinæum ruptured to sphincter. The posterior vaginal wall prolapses so as to form a large rectocele. A pessary will not stay in vagina. She suffers from frequent sick headache, constipation, irritation of bladder, backache extending up to the back of the head, soreness and tenderness of lower part of abdomen. She has had several attacks of metritis and pelvic peritonitis. She had been under treatment for a year, so the peri-uterine induration was well removed, and uterus quite movable. On the twentieth day of August, both operations were performed. A large amount of cicatricial tissue had to be removed from the cervix to insure union and relieve neuralgic pains. Six silver wire sutures were required to bring the lips in apposition.

The perinæum was repaired in the manner already described. Rather more than the average area of surface was denuded, but two deep and one superficial stitch held the parts well. She made a good recovery and on the tenth day the perineal stitches were removed and she was allowed to get up. On the thirteenth day she went to her home, eight miles away. The sutures were removed from the cervix in thirty days; result all that could be desired. After a short time I introduced a double lever pessary, which was worn two months; but during the winter it was omitted and hot-water injections were prescribed. I made an examination in April and found the curve of the posterior wall of the vagina perfect. The cervix uteri was about its normal size and

healthy. Body of uterus much smaller, but still retroverted; uterine catarrh much improved. Inside measurement three inches. I again introduced a pessary which she is now wearing. I have seen her several times since and she reports herself as doing well. She has been greatly benefited by the operation in all ways.

Case No. 4. Mrs. C. T., patient of Dr. Locke of Colebrook, aged about forty-eight. This is an old case, and she has been bed-ridden for several years on account of uterine disease, all the while being under treatment, which was sometimes good, sometimes bad, and sometimes indifferent. The rupture extended through the sphincter but did not involve the intestinal coats. She could control the discharges from the bowels when constipated, but not if loose. Large rectocele. The cervix was badly torn, lips indurated. The uterus was large, prolapsed, and retroverted; uterine catarrh. She was fully etherized in a minute and a half, and both operations were done in thirty minutes in the usual manner. She got on well, and her physician reported to me in May last that she was very much better, so as to keep about the house and go up stairs and out to the neighbors, and he has no doubt that in a year she will be quite well.

Case No. 5. Mrs. C. M., aged about thirty. She has had three children. The youngest is eighteen months old. After the birth of each child she had more or less trouble with her eyes, and constantly since her last confinement. She came to me in August, 1883, complaining of intense photophobia and circum-orbital pain. She said she had been confined most of the time for a year and a half to a dark room. There were some granulations on both eyelids. A moderate degree of light was so painful to her that she could see but little. She also had some backache and leucorrhœa. She had been treated by her family physician, and by an oculist at Montreal.

No organic lesion of the eyes could be discovered. Very irritated condition of nervous system, pain in back of neck and head; laceration of cervix and perinæum with retroflexion, tenderness and subinvolution of uterus. Diagnosis was extreme functional irritation of optic nerve reflected from the uterine disease, and general debility. I then sent her to an oculist, but did not inform him of our diagnosis. She remained under his care for

a week when he returned her to me with the same opinion and advised an operation, after which he thought suitable treatment would restore her sight. Both operations were done at the same time, and she made a very good recovery. I afterward introduced a pessary, and for a time she improved. In a few weeks she returned to her home forty or fifty miles away. She now reports herself as much better.

Case No. o. I will here mention a similar case of photophobia, pain about the eyes and inability to see, occurring in a young woman aged about twenty-one, single. This was a case of about three years' standing and had been treated by several different physicians without benefit. She consulted me in May or June, 1883, and after treating her a short time and finding no organic disease of eyes, and also as she had very painful menstruation, backache, back of head and neck ache, leucorrhœa, etc., and on making an examination finding the uterus sharply retroflexed and tender, I diagnosed reflex irritation. I then sent her to a competent oculist for a diagnosis. He confirmed my opinion and advised treatment of uterine misplacement, which I did, and in a few weeks was able to introduce a double lever pessary, which afforded great comfort to the patient and cured her eye disease. She has remained well since.

Case No. 6. Mrs. R. A. G., aged about twenty-five years, married two years, first and only child six months old. She had a hard labor followed by three attacks of metritis and pelvic peritonitis or cellulitis, and was confined to her bed for three months or more after parturition. The uterus, which was quite immovable after the pelvic inflammation had subsided, was loosened by treatment and time. The cervix was torn nearly to the vaginal junction, and perinæum to and partly through the sphincter. The uterus was retroverted. She was suffering from backache, headache, gastralgia, leucorrhœa, painful defecation, and micturition and general debility. Dr. Dawson performed the operations for both injuries, September 2, in thirty-five minutes. She had a slight soreness for two or three days for which she took three or four morphine powders, but on the fourth day she declared herself able to sit up. The perineal stitches were removed on the eighth day, when the patient got up and walked across the room

and sat in an armed chair for half an hour. She was up all the time from the next day. The cervix stitches were taken out in four weeks; result perfect. The uterus was replaced, and held by a pessary for a short time. The results in this case were as good as could be, for in a few weeks the patient was perfectly well and has remained so ever since.

No doubt much, and perhaps all, the reason for the quick and complete recovery was due to the fact that the parts were not changed by old chronic inflammatory processes, which require months for their removal, even after the lacerations have been repaired. Thus a career of chronic invalidism from uterine disease lasting for years and perhaps for life, was brought to a timely end, restoring the health needed for the care of her family and a member of society. This case, and others that I could mention, demonstrate the advisability and necessity for repairing the damage at the earliest moment practicable. Every member of this society has under his care and in the circle of his acquaintance women physically and mentally demoralized, wrecks of their former selves, that might now be in the enjoyment of good health and all the usefulness and happiness which that brings, if at the proper time this simple operation had been performed.

Case No. 7. Mrs. G., aged about forty, married at thirty-three, and first child was born about eighteen months later. Very tedious labor, convulsions and forceps delivery. The perinæum was badly torn and a subsequent examination showed same condition of the cervix. The recovery was slow, owing to septic poisoning and pelvic inflammation. Her second and last child is about two and a half years old.

She has not been well since her first confinement; but has broken down completely in the last year and a half. She suffers constant pain through the pelvis and back, bearing down feeling, nausea, distress of stomach, constipation, and pain with every movement of her bowels. She had one or more sick headaches every week, extremely nervous and irritable, and a bad sleeper. On making an examination I found that the cervical laceration was not as deep as when I examined her six months before, that the lips were harder and contained more cicatricial tissue and very painful. The cause of this change was apparent when she

told me that she had been under the care of a homeopathic practitioner for the past four months, who told her there were two ways of curing the laceration. One was by sewing the lips together, and the other was by burning them off by some application that he knew of to a level with the bottom of tear, thereby making a smooth and good-looking cervix, and that he could do the latter operation better than the former and it would be just as well for her. So he had applied some caustic, probably nitric acid, quite a number of times, and but for the accidental way the case came into my hands, would probably have continued to apply it until the laceration was obliterated and the patient made an invalid for life. As it was, she was getting a good deal of neuralgia from the contraction of the cicatricial tissue produced by the caustic. The nutrition of the parts was much interfered with and had the appearance as though it might break down into a malignant condition before long. The patient was informed at the time that she must not expect a perfect recovery by the operation, as it would be impossible to remove all the scar tissue, and that it would cause more or less pelvic neuralgia. Thirty-five minutes only were required for both operations. A large amount of cicatricial tissue was removed as hard as gristle. Six stitches closed the cervical wound. The perinæum was restored according to Dawson's method. Menstruation came on three days after, but did no harm. The perineal stitches were taken out the ninth day, and she sat up on the tenth, and in a few days was about the house and yard. The cervix sutures were removed in thirty days; union was complete and the neck much reduced in size. She felt better than she had in a long time. Advised hot water douches and treatment for constipation. I did not see her again until April last, owing to my absence from home during the winter. She was much improved, but still had bearing down and pelvic pains. On examination, found the perinæum perfect. The cervix was much smaller and healthier, no leucorrhœa, fundus tipped backwards. Introduced an Albert Smith, improved by Thomas, pessary, which she is now wearing with great relief, and is taking care of her two children and doing her housework. She has some neuralgia, but the result is an immense gain over her previous condition.

Case No. 8. Mrs. J., aged about thirty-three. Has had four children; is a fleshy, robust woman. She has suffered for a number of years from uterine disease, and for the past two or three has been much worse. There were subinvolution and hyperplasia of the organ, which was anteverted and pressed on the bladder, producing incontinence of urine, so much so that I at first feared vesico vaginal fistula. She has worn for the past year or two a Gehrung pessary with much benefit. There was extensive laceration of cervix and perinæum. Both operations were done August 30. Quite a large amount of tissue was removed from the cervix. The perineal and cervix stitches were removed on the tenth and thirty-fifth days, respectively. The neck was much smaller and firmly healed. She has continued to improve, and her physician reports the womb still some larger than it should be, but gradually shrinking, also some redundancy of the vagina; but the most troublesome symptom, viz., incontinence of urine, absent, and much improved in all other respects. There was so much hyperplasia in this case that a long time will be required for the full benefits of the operation to be realized, and I am confident she will continue to improve for a year.

Case No. 9. Mrs. W., aged about 37; mother of five children, all in the first seven years of married life. The perinæum was ruptured to the sphincter in the first labor. She has a delicate nervous organization, and has been a great sufferer from uterine disease for four or five years, the particular form being subinvolution, a loose uterus, that is, misplaced in any direction according to circumstances, and chronic uterine catarrh. There was much pain in the back, back of neck and head, nervous headaches, and functional disturbance of stomach and heart. She has worn a retroversion pessary for two years, more or less. It was too long for her, and had caused an ulcer on the posterior wall of the uterus as large as a two-cent piece. The cervix was slightly torn, but not demanding any treatment. The operation on the perinæum was done September 2. More pain and soreness followed than is usual, and not being able to take opiates made it still worse. She did well, however, and on the eighth day, when the sutures were removed, the parts were firmly united. She gained rather slowly at first. Has worn no

pessary since, and during the winter and spring has improved much. She has gained flesh and strength, and her nervous system is steadier. In a year more I expect her to be quite well.

Case No. 10. Aged about 40, sister to the above. Has a very similar organization, and was almost a parallel case. She has had three children. Has been an invalid for five or six years. At the time of the operation in September she was confined to her bed, and had been for five or six weeks, with what her physician called gastric fever, due to reflex irritation from uterine disease. She vomited nearly all food and medicine, slept but little, and was much emaciated and feeble. On removing the retroversion pessary an ulcer was found of about the same size and location as in the other case. The uterus was large; only the perinæum was repaired, which was done in fifteen minutes, as in this case speed was of the utmost importance, for her weak condition would not tolerate long etherization. Nothing unfavorable occurred, however, and in nine or ten days the sutures were removed; union perfect. She sat up in two or three weeks, and in October she came to Lancaster, forty or fifty miles from her home, when I introduced a retroversion pessary, which she wore for three months; since then she has needed none, and is now well.

Case No. 11. Mrs. P., age about 33; two children. She had been sick and confined to her bed for a long time, and was very feeble and emaciated. I do not know what her ailments are or were, but judge them to be mainly other than uterine, although no doubt the ruptured perinæum contributed more or less to the general malaise. A perineal operation was successfully done September 10, although she very nearly died from the anæsthetic, from syncope, and the operation was finished while the assistants held her body at an angle of forty-five degrees, with her head on the floor. I hear she is a little better, but do not think much benefit can be expected in this case.

Case No. 12. Mrs. S., aged about 45, Dr. Holbrook's patient of Colebrook. She is the mother of several children, and has been disabled in the usual manner from laceration of the cervix and perinæum for many years. Dr. Dawson operated on the cervix only, departing from his usual custom, and leaving the

perineal operation for another time, which I propose to do soon. The only thing of special interest in the case is that no anæsthetic was given, and it did not seem to be very painful. She made a good recovery, and is much better than before; and doubtless the restoration of the perinæum will make her a well woman.

Case No. 13. Mrs. S., aged about 35; two children. An aggravated case of lacerated cervix and perinæum, subinvolution of uterus and retroversion, with the usual symptoms. The cervix only was repaired, leaving the perinæum to some future time. Everything favorable and result good.

Case No. 14. Mrs. A., aged about 45. Never had any children, but married young. She states she had an ovarian tumor extracted by the way of the womb. She had a very long slit on the left side of the cervix extending to the junction with the body of the uterus. She had suffered many years from cystitis. At times a large amount of muco-purulent matter passed in the urine. Formerly she had dysmenorrhœa and misplacement, and no doubt this fissure was made as a means of cure, as it appeared more like a clean cut than a laceration. Latterly she has had a bloody leucorrhœa. She has been to several hospitals and numerous physicians, but received no benefit. I was uncertain how much good an operation would do her, but she would take the chances and have it done, so we did it November 1. The tissues were not healthy, and several good physicians had told her they feared it was degenerating into cancer. There was a good deal of hemorrhage during the operation, otherwise everything was favorable, and now she reports herself as well. The result is better than I expected. No anæsthetic was used.

Case No. 15. Mrs. E., aged 40. This was not a bad case of laceration of cervix, but sufficiently so to demand an operation, which was done September 15. She made a good recovery, and is now well.

To sum up, twenty-three operations on fifteen patients, viz., eight cases of both cervix and perinæum, in which both operations were done at the same time, and it is much better generally to do so, as it saves time, trouble, and expense, with equally good results. Of these eight cases seven were cured or very much improved, and in a year or two it is reasonable to expect them to be well. In one, an unavoidable accident inter-

fered with the best possible result. Of the three cases of perineorraphy, two were cured and one was some benefited, which was all that could be expected under the circumstances. Of the four cases of trachelorraphy, two were cured and the other two have received all the good expected, as they each require the perinæum to be repaired to complete the cure, when we hope to discharge them well.

Dr. Whittier of Portsmouth: — I would like to make a few remarks upon the perineal operation. I have been very much interested in the paper, and I think it is a very able production. Without going into a discussion on laceration of the os, I would like to speak a few moments in relation to the manner of uniting the perineal laceration. In Nos. one and two of his operations he failed, as he says, from fecal matter entering the inclosed wound, to get any contact between the denuded surfaces at the time of the operation. I do not know whether the doctor had given a cathartic before the operation or not; if he had, that trouble probably would not have resulted. I do not know what the treatment was. But in the denuding and stitching there are one or two points which seem to me to be very important, which the doctor did not speak of. In uniting or in denuding there is one point which seems of great importance to me, in quite a number of cases I have operated upon. You always begin denuding the surface at the extreme lower portion, for the purpose of getting rid of the surface being covered up by blood which flows from the upper or cut surface; then passing upwards till the butterfly shape is formed by the two denuded surfaces. Then, if there is any doubt about the surfaces being entirely denuded (which, of course, if they are not, the result would be very likely to be a sinus there, and perhaps trouble afterwards), a strong solution of carbolic acid lightly brushed over the denuded surfaces would immediately turn white all the surface that is denuded; consequently you would know at once if any portion had been left, which you might remove then. In stitching, I believe when these cases went deep into the rectum rupturing the sphincters, a blind stitch passing in about midway opposite the anus on either side, one inch from the margin, and pass that into the septum, bringing it out on the other side with a silver wire and putting in four other stitches, the others passing through on the side

about half an inch in, and passing the needle outward in a curved line instead of going straight through, so as to include a large amount of tissue, bringing it in half an inch from the edge of the ruptured margin of the vagina, and of course putting your silver wire in the eye of the needle and withdrawing the needle, which brings the silver wire out where the needle entered, and performing the same operation on the other side, threading your needle with the silver wire and bringing it out as before. Close the two wings of the laceration after the stitches have all been brought out. In passing these stitches in I pass the lower or blind suture three-fourths of an inch from the anus, a little more than half way down on the side, pass it in the septum, not let it come into the vagina at all, pass it in three inches deep, then bring it out on the other side, then run both ends of the silver wire through a perforated shot, push the shot down as far as you need it, and give it a pinch, then cut the wire off close to the shot. The stitches are not drawn up tight until all have been put in, then each stitch is drawn up very firmly and the shot pushed down and pinched up with strong forceps; simply pinch the shot up and make a twist in the ends of the wire after passing each suture in succession, drawing them firmly, until you have brought the five stitches up and pressed down and pinched up the shot so there will be no slipping. The result of this operation is that there is so much tissue included in the stitches, being drawn up tightly, not tight enough of course to obstruct the circulation, but enough to naturally close the surfaces, so that there should be close apposition of the whole surfaces. Then after the stitches are all drawn up, simply cut them off close to the shot, and you have one simple straight close wound. Those stitches, as a matter of course, should be removed after a certain time, perhaps eight or nine days. But in this mode of closing you have no extra or surface stitches to put into the outside. Five stitches perform the whole operation. It is Goodell's operation, and seems to me the best that I have ever seen. I have adopted this method in severe cases, and with perfect success in every case, and I do not think it makes any difference whether the blood is entirely cleaned out or not. Drawing the stitches close squeezes out all the blood that is necessary to be removed, and in every case I have had perfect union by first intention.

ADDRESS TO THE GRADUATING CLASS OF DARTMOUTH MEDICAL COLLEGE.

BY A. P. RICHARDSON, M. D., WALPOLE.

Mr. President and Gentlemen of the Graduating Class :—

It will be my endeavor this evening to offer you a few thoughts appropriate to the hour, realizing that your professional armor is on, that your minds are bristling with the weapons of science, and that you are already impatient for the smell of powder in the battle-field of practice. Well armed and equipped indeed you should be, for the enemy, fell disease, often presents a bold and aggressive front, and sometimes lurks in the thickest ambush. The army of diseases which may attack the human frame is said to number two thousand strong, a small portion of which it will be your lot to meet in the arena. For the most part you will meet them single-handed, and not all will down at your bidding, even if your blows are well directed and your courage is Spartan. Full of the glow and dash of young manhood, and carefully equipped as you may be, armed and armored from head to foot, eager for the fray, you doubtless may be impatient of advice, though it should come from the veteran and scarred soldier.

Gentlemen, I would detract nothing from the glow of enthusiasm which may now possess you. Heaven forbid that I should dampen your ardor as you pass over the threshold of your professional life. I would rather that my words should add to the satisfaction which must be present with you at the success which has crowned your efforts in reaching your present honorable position. Your diplomas are indisputable evidence of the successful termination of your preparatory course, and are tokens of the approbation of your instructors. You are now recognized as qualified to become the trusted guardians of the lives and health

of the communities in which you may locate. The occasion is not only of great interest to you, but to your friends and acquaintances, and it becomes my pleasing duty to extend to you congratulations and cordial greeting. In addressing you, the "observed of all observers," on this occasion, I must not forget that there are those present who are advanced in years and in that special knowledge which comes only from actual service in the profession, and also the representatives of the community at large, a community, however, trained beyond others in the ways of scholars and professions by virtue of its educational advantages.

The months which have just passed, months, no doubt, of study and application, though they may seem dream-like as you look at them in the retrospect, will long be remembered, and, if I may judge by my own experience and observation, they will be remembered as a very pleasant part of your lives, though you may have been obliged to make sacrifices to accomplish your ends. Here you have received instruction of varied kinds; you have been made familiar with facts and theories; you have shown by your examination that human anatomy, chemistry, materia medica, the nature and limits of disease, some of its causes, preventives, and cures, are fundamental subjects to which you have directed your attention with commendable zeal. Said Prof. Henry M. Seely, while addressing a medical class just twenty years ago, "If you have marked here diligence, let the same diligence characterize you. It will be in vain to hope for eminence in the medical profession without corresponding efforts. At times there may be a glow and a light thrown over the path of the student, and during one rare hour he may accomplish more than in a day or week at other periods; but such inspirations come only at long intervals. They are but a transient lighting of the path, but the revelation of the goal that is to be reached by diligent exertion, after the plodding of many weary hours. If a glorious picture of the future be at some time flashed before your favored vision, be thankful for it, but know that it will all fade but the bare outline, which in years to come you are to fill up and make glow again with the toil of the careful limner."

Wherever you are you will find demand for all the knowledge you may have acquired, and, if you have genius, you will find

ample opportunity for its display, and in the world of ideas to stamp your own personalities and convictions into the great heart of humanity. Nor will you cease yourselves to learn. Many things you will learn not found in books nor heard in the lecture-room.

The position of the physician has been said to be the measure of a nation's civilization. There is ample evidence that the importance of medicine as a science is rising in the general opinion of mankind. The increasing intelligence of a people demands more and more of the medical man, and to this demand there must be a response. If we are students of medical history, we find discouraging evidence of shifting medical fashions and even axioms. That there should be improvements and discoveries in the ways of managing diseases is simply consistent with the spirit of the times in all other arts and sciences, and is an encouraging feature to the thinking mind. It has been said that the succession of men, as they appear age after age, may be regarded as one man, who lives always and learns continually. The accumulated wisdom of the ages has, in one sense, been passed over to you. This is your stock in trade, and you are at liberty to add to it as much by your own efforts as you can. Indeed, if you do not do it, it will soon become old-fashioned or exhausted. This can only be done by never ceasing to be students. Standard medical books and journals must be read and often referred to. If you write for the journals, it will serve to make you accurate and interested. You must become close observers of your cases, and should make a record of them for reference. You will learn much and constantly by associating with your brother physicians, by meeting with them in societies, and participating with them in some way in their work. When private practice is entered upon, there will usually be ample time for careful and deliberate study of a few cases. After graduation a year of hospital experience would be of great value, but desirable positions are hard to get, especially for one graduating at a country college. The place of an assistant or a junior partner to a busy or even an elderly man who needs aid, likewise hard to find, is also, in my opinion, advantageous to the young practitioner. Those who can afford it should avail themselves of the

opportunities offered for the study of medicine in our larger cities after graduation. Post-graduate training and private courses, in connection with hospitals, and under those especially prepared to give instruction with the ophthalmoscope, laryngoscope, microscope, in gynecology or other special subjects, are privileges now offered in our centers of learning more than ever before. From my standpoint, — and I am sorry I cannot say from experience abroad, — I am of the opinion that New York now offers to the English-speaking student advantages quite equal to those to be obtained in the old world. If the two kinds of post-graduate instruction, that at home and abroad, can be enjoyed by one, then he will, to my mind, have real and ideal opportunities. The time has come when even the country villages of New England are critical as to the quality of their medical advice. In the summer season our hills and lake-shores are populated with strangers and educated people, who are all the more contented and happy if they can feel assured that they are within easy reach of intelligent and properly educated medical men.

The independent course of commencing practice alone and immediately after graduation is the one more common, and has much to commend it. Experience may thus be slowly acquired, but like hard-earned money it is all the more prized, and leads to independence of opinion, and the evolution of the judgment. The custom of visiting our centers of learning, after a practice of three years, for the purpose of study and improvement, is to be commended and advised.

The young physician may soon find his natural tastes and aptitudes tending towards special lines of investigation. This will probably work to his advantage, and make him more enthusiastic in his study and prosperous in his practice. Proficiency in all departments should be the aim, and excellence in any one is most commendable.

To those whose tastes and circumstances permit, the medical service of the United States army or navy offers a desirable opening, and requires talents and qualifications of a high order. It seems to me, however, that the most desirable openings for young men are to be found in the new towns and villages which are springing up in the far West. To the young man whose family

connections do not in some way hold him to New England with good promise, I am confident that the advice once given by Horace Greeley to a young man, to "go West," is of the best kind. Wherever one's lot may be cast, there are a few underlying truths which must be observed by him who desires to lay a foundation for successful practice. Some of these I deem it my province to allude to. In doing this I do not lose sight of the truth of the saying that it is easier to preach than to practice, especially if the practice be that of medicine.

A man may possess a good knowledge of medicine and be very unsuccessful in winning public patronage. Such a man, without tact and business capacity, would be of little more use to society than Reynold's system of medicine placed in a public library.

The foundation of true success in any profession or business is to be a good, broad-minded man in the exercise of common sense. Every physician has the inalienable right to enjoy his own religious convictions, and to exercise his political rights. He should attend the church of his choice and vote as he pleases; and he will be respected for so doing. But as his calling brings him in contact with people of all opinions, it is better that he should not make himself repugnant to many by too frequent proclamation of his views. This, however, is but common civility and need hardly be mentioned. As a rule, the most successful practitioners are those who have added to their medical knowledge a knowledge of human nature.

The coarseness and brusqueness of the old-time surgeon have given place to delicacy and courtesy. His requisites are, indeed, as has often been said, "an eagle's eye, a lion's heart, and a lady's hand."

There is a kind of self-regulating influence in the world which usually gives to each his due. Strong or weak points in one's character may not be recognized in a way which may be expected, but in some manner they will appear, so that all are apt to pass for what they are worth. Sometimes the very acid that is added in the severe tests to which a man's character is subjected in the seething caldron of public criticism, serves to clear up the suspicious appearance of some passing circumstance, and proof positive is furnished that the constituents of his character are of the right sort.

The physician is, by virtue of his occupation, a marked man in a community, seen, known, and criticised of all men. Let him not think he can shirk responsibility, or that his ways are past finding out.

Gentlemen, you will often find occasion to be glad that you have two ears, for you will have abundant use for them both; not alone for binaural stethoscopic auscultation, but for that other necessary employment for those auricular appendages, disregarding anatomical relations, of allowing a free passage out of one what may chance to come in at the other. In other words, you must acquire the power to exclude that which is misleading and not pertinent to the case in hand, and retain that which is of importance. The secrets of your patients, which in the nature of things they are obliged to unfold, you are bound to keep inviolable. This duty of keeping sacred the confidence of your patients is helpful and a moral tonic. Indeed, there is much good that may be wrought in us by virtue of our calling, sometimes, even, by influences that we do not recognize.

When you have very sick patients in important persons you will find the public interested, and you will be asked on every corner the whole condition of affairs, and especially to prognosticate. But you should always answer with caution, and, though at times one of the greatest annoyances, you should exhibit patience and a gentlemanly manner. You should not in any sense, however, become a walking bulletin, announcing on the slightest solicitation all the points of physical and mental weakness which are afflicting the sick man. Often the inquiries are prompted by a light curiosity rather than by any deep interest or sympathy. Sometimes, in cases which you have plainly declared dangerous and uncertain as to their termination, as in the critical stages of grave cases of pneumonia, diphtheria, or typhoid fever, the final and absurd interrogatory will be, "Is he going to die?" Gentlemen, you should never for a moment think of calling into action the flexor and extensor muscles of your right arms for this impropriety, but, under the circumstances which I have presented, you are not to allow yourselves to be further committed, unless the case has advanced to that stage when you can speak with confidence as to the result. A snap judgment will do better on sub-

jects pertaining to exciting political elections or in weather prognostications. The earnest attempt of some garrulous patients to "tell you all about their cases," may sometimes remind you of the enormous book said to have been possessed by the philosophers of India, a book so large that it required one thousand camels to move it; but you must remember that a king had it so abridged that it was at last reduced to four maxims. In like manner you will learn to epitomize the loquacity of too verbose patients. Your time is precious, and your business is to set your patients in the way of recruiting their lost health, not to listen too long to the egotistic garrulity of valetudinarians. The candid expression of a dislike to unnecessary talk sometimes has a good effect, and causes your patient to be more chary of his pointless narrations. You will sometimes, however, have to listen patiently to rambling accounts of one's feelings and notions, in which recital some seem to find their chief satisfaction. Often you will with difficulty find time or opportunity to give your suggestions and directions so as to impress the mind of your patient with their importance. Opportunities for the display of your genius and learning will sometimes present themselves suddenly to you, or, as it were, spring up from behind you, as troubles do, and in such a way that familiar things may seem strange. You will be asked to cure the incurable, to find a remedy for inherited ills, to repair the injury done by dissipation and the lawless indulgence of the appetites and passions. It seems to be the young man's peculiar province to chide himself that he cannot break fevers, stay the course of epidemics, cure chronic rheumatism in a day, and set the bed-ridden on their feet. He feels it his duty to search out causes and exhibit sure remedies where older experience cheerfully confesses ignorance and inability. Stale jokes about its being "distressingly healthy," the story of how old Dr. So-and-So started his practice by driving furiously every day to imaginary patients, and other like things will greet the ear of the young physician. It is fortunate that the ridicule so often leveled at the utility of medical science by those in health, has no charms for suffering humanity in moments of physical prostration.

Responsibilities will be placed upon you which you will find extremely weighty. Ask not in your earlier practice for gray hairs, for they will come all too soon. Brain and nerve must be daily in hard use, and well indeed will it be if they are kept in healthy function. Loss of sleep, the strong tension required in self-command, worst of all, the habit of worrying over the startling occurrences of disease and accidents, the inevitable events to be met, — these will leave their marks somewhere on the hardiest. You may be conscious of having rendered the best of services, may have sacrificed much and in many ways, and, where gratitude is due, receive only malice and abuse. You will sometimes ride through bleak and cheerless places, through the cold fog of a February night, to sit for hours in a stifling garret by the side of the poor, have only snatches of sleep without undressing for days, in times of unusual sickness; — these are only features of the business and the duties of your chosen profession, and are to be borne manfully.

You may think I present only a pessimistic view of the life of the physician. Such is not my design. The days, weeks, months, and years pass as quickly in his life as in other occupations. His life is not, as a rule, a gloomy one, though he has so much to do with the ills and trials which afflict mankind. On the whole, it is a cheerful one. If of a nervous temperament, he may sometimes borrow trouble, wonder what will come next in his experience, and, at such times of exalted sensibility, the halting of an anxious messenger at his door may cause emotions similar to those produced by an alarm of fire; but a little rest and fresh air will relieve this morbid state of irritability and make him more philosophical.

Your speaker often recalls the remark made by his preceptor, when he first informed him that he had decided to study medicine and wished him to direct accordingly. "Well," said he, frankly, "any young man who makes up his mind at the present day to study medicine with a view to its practice and thereby gaining a livelihood, has a very soft spot in his head somewhere!" But the soft impeachment was unheeded, though never forgotten, and it is to be hoped that nothing personal was meant in the matter.

People often express their sympathy for a doctor for leading a life so irregular, so anxious, so exposed. "I'm glad I'm not a doctor," is an expression frequently heard. It is only required of each one, under all circumstances, to do the best he can and let results take care of themselves.

The leisure seasons of early practice ought to be appreciated by physicians, when the experience of others, ancient and modern, may be wrought into their own. Said President Eliot, at the recent dedication of the new building of Harvard Medical School: "The medical profession is fortunate among the learned professions in the fresh and boundless field of unimaginable fertility spread out before it. Its conquests to come are infinitely greater than those already achieved. The great achievements of this century in medical science and the healing art are all prophetic."

Here let me say that the great success which has attended the Harvard school in the past few years, in its efforts to raise the standard of medical education, calls for our congratulation and emulation; and as all schools are members of one body, they should have care one for another. Said Col. Henry Lee, on the occasion just referred to, speaking in behalf of the public, "Physicians, however ranked, have the same attributes the world over. The good physician is our earliest and our latest friend; he listens for our first and last breath; in times of bodily distress and danger we look up to him to relieve us."

We are happy to feel and to know that the orator of the day on that occasion, Dr. Holmes, introduced as "their oldest professor and their youngest, their man of science and their man of letters, their teacher and their friend, is not *all theirs*, but *ours* as well, by virtue of his graceful service in years gone by in our anatomical chair.

Our happiness must be had as we are passing along if we would be sure of it. We cannot safely put off our time for enjoyment to later in life, thinking to take it as we do our dessert, after the substantial part of life's labor is over. I often reflect upon the reply made by a physician who had practiced forty years in the place where I now reside. As he was about retiring from labor, I expressed a hope that he would enjoy a green old age, no longer

disturbed by the cares of his profession. He replied, " I do not expect ever to be happier than when in full practice and doing the most hard work. " No occupation clings to a man in advancing years like that of medical practice, in which the experience of a life-time is considered often of great value.

It is a subject of great rejoicing that the present day witnesses much less of bitter professional rivalry, jealousy, and discord than in the years gone by. Medical history in this direction is anything but pleasant to reflect upon. Physicians are now much more charitable towards each other, more kindly disposed and more fraternal, much to their own credit and happiness, and to the benefit of the public. We lean more on each other, our interests are more closely allied, and good feeling and fellowship are the rule and no longer the exception. Yet the millennium has not arrived, and some of the relics of depravity even now assert themselves among the craft. The views of physicians upon the nature and treatment of disease may honestly differ. One may have very little confidence in drugs and remedial measures and trust much to the *vis medicatrix naturæ*, while another persuaded by the *post-hoc-propter-hoc* kind of reasoning, is led by his and others' experience to enjoy a fuller confidence in his ability to control disease and probably fuller confidence of his community. But the man who holds a middle course in this, as in almost everything else, will not only take more pleasure in his profession, but will help his patients more, a matter of some importance. Not having an exact science, we must labor to preserve and develop every truth as we find it. The wonderful benefit which has accrued to the world from vaccination as a preventive to small-pox, may yet be equaled by the results of patient investigations in tuberculosis, diphtheria, typhoid fever, and other diseases.

No physician ever gained an honorable fame by traducing his neighbor. By such an attempt he injures himself, lowers the standard of medical ethics, and disgusts the respectable portion of the community in which he resides. Such attempts can furnish delectation to that part of the community only, which rushes to the street corners at the snarling of dogs. What Prof. Dixi Crosby was wont to call his " new proverb " seems applicable to

those who try this method of advancing their own interests; viz., "Whoso spitteth against the wind, spitteth in his own face." There are many little things in the general conduct of a physician which, no doubt, have their influence on himself and the public, for weal or for woe. These things which pertain to his demeanor, his office, sign, fees, dress, habits, control of temper and nerve, his general professional tact and business sagacity, the management of human nature as it is found, things aside from scientific acquirements, are topics which might be properly considered were I addressing graduates only. These things are well treated in a recent little volume entitled, "The Physician Himself," by Dr. D. W. Cathell of Philadelphia, and is well worth your perusal.

There is one point in this connection, of practical importance, upon which I wish to present my view. It is this: every physician should begin early to save a portion of his income, though it be small, and thereby establish a good habit and commence to do what every man should try to do, to lay up something for future need. To be very brief and plain, I will say that, if in the first years of one's practice his income is no more than five hundred dollars annually, he should reserve fifty dollars for the uncertain future; if he has an income of one thousand dollars he should save two hundred dollars; should practice increase, and an income of two thousand dollars or more be reached, he should lay aside five hundred dollars. In this way he will be providing an independence for himself and family, and guard against misfortunes. But, if in the years of small incomes he spends all, and depends on an increase of business by and by, he will form a habit hard to overcome, and will expend two thousand dollars for apparent necessities as easily as he did five hundred.

Consultations, as now commonly conducted, are on a much higher plane than in former times, and are, for the most part, a conference among gentlemen and scholars. The influence of the American Medical Association has effected a great reform in the matter of medical education, has raised the standard of attainments, and has drawn the line more distinctly between the honorable practitioner and the charlatan. Its code of ethics con-

tains nothing, however, which any one who designs to do as he would be done by may not act up to without studying its rules. It is not, therefore, burdensome, and, I may say, is as unnecessary to him who always tries to obey the golden rule as are the criminal laws of state for the same person.

I cannot allow this occasion to pass without a brief allusion to the changes in the *personnel* of the professors in this school within the last two decades, the time since it was my privilege to occupy these seats. Alas! in this brief period they have nearly all joined the "shadowy procession." Dixi Crosby, the earnest and original teacher, the good and trusted physician in all this region; Edward E. Phelps, a lover of learning, esteemed for his scientific attainments and sound reason; Albert Smith, a man of serene and clear intelligence, truthful, the wise and good physician; Edmund R. Peaslee, the scholarly gentleman, author and operator, known and beloved at home and abroad; Alpheus B. Crosby, son of a noble sire, charming in manner, full of wit and wisdom, the student's ideal physician, whose sun set apparently in its zenith,—these are known now only to memory and to story. We bear in our hearts this generation of teachers who served this school with diligence and zeal. Fearful and sad as this mortality may seem, it is but the common lot of man, and my wail must be suppressed. But on an occasion like this one cannot resis: the "flood of sweet memories" of that time which can never come again. The world stops at no man's birth or death. The places of these, my instructors, are not vacant. Others, good and true, go in and out, and gracefully tread these classic grounds.

Gentlemen, with these few desultory thoughts I leave you to go forth into the world in the exercise of your chosen profession, each as best he may. Go forth into the shadowy future without fear and with manly hearts. Establish for yourselves happy homes. Endeavor to live honorable lives, for honor and probity are recommendations to all high places; ever inculcate and practice virtue and morality. Diligence and application are qualifications necessary to the accurate elucidation and practice of your art. Cultivate your reason by a due exertion of your rational and intellectual powers; search into nice and hidden theories; make new discoveries and embellish those already discovered;

distinguish yourselves by truth and fidelity; when assaulted be firm and fear not, but exhibit proofs of your skill and acquirements as occasion presents itself, thus meriting the honor of the degree which is this evening conferred upon you. Illustrate by your practice the utility of your training, and support the dignity of your calling on every occasion by conduct consistent with divine and human law.

REPORTS OF DISTRICT SOCIETIES.

REPORT OF THE STRAFFORD DISTRICT SOCIETY.

CHARLES A. FAIRBANKS, M. D., SECRETARY.

The seventy-sixth annual meeting of this society was held at the American House, Dover, December 19, 1883, at eleven o'clock A. M., the president, Dr. John R. Ham, presiding.

Members present:

Dover — Drs. J. R. Ham, L. G. Hill, C. A. Tufts, A. G. Fenner, D. T. P. Chamberlain, M. C. Lathrop, A. N. Smith, E. S. Berry, P. A. Stackpole, H. R. Parker, C. A. Fairbanks, T. J. W. Pray, J. G. Pike.

Rochester — Drs. E. F. Gage and F. P. Virgin.

Portsmouth — Drs. J. W. Parsons and S. C. Whittier.

North Berwick — Dr. J. O. McCorrison.

Barrington — Dr. J. S. Daniels.

Sanford, Maine — Dr. F. L. Durgin.

Lebanon, Maine — Dr. J. S. Parker.

Eliot, Maine — Dr. J. L. M. Willis.

Haverhill, Mass. — Mr. W. A. Curtis, visitor.

The chair announced the following committees:

Committee on Nominations — Dr. L. G. Hill, Dover; Dr. F. P. Virgin, Rochester; Dr. J. L. M. Willis, Eliot, Maine.

To Select and Assign Topics for 1884 — Dr. J. W. Parsons, Portsmouth; Dr. J. H. Wheeler, Dover; Dr. E. S. Berry, Dover.

Committee on Necrology for 1884 — Dr. M. C. Lathrop, Dover; Dr. J. O. McCorrison, North Berwick, Me.; Dr. E. F. Gage, Rochester.

Dr. C. A. Tufts, treasurer, made his annual report and showed $23.47 in the treasury.

Dr. J. R. Ham, president, delivered the annual address on "Renal Cirrhosis."

Dr. E. S. Berry, Dover, delivered an oration on "Respiratory Irrigation in the treatment of Empyema."

Dr. J. L. M. Willis, Eliot, Me., delivered an oration on "Sir Charles Bell, physiologist."

It was voted that the secretary take charge of the books in the Dover Library, belonging to this society.

It was voted that the resolution limiting the term of office of president to one year be rescinded.

Dr. L. G. Hill, for the Committee on Nominations, reported as follows:

President — Dr. S. C. Whittier, Portsmouth.

Secretary — Dr. C. A. Fairbanks, Dover.

Treasurer — Dr. C. A. Tufts, Dover.

Auditor — Dr. A. Noel Smith, Dover.

Councilors — Dr. F. P. Virgin, Rochester; Dr. T. J. W. Pray, Dover; Dr. J. S. Parker, Lebanon, Maine.

Orators — Dr. F. S. Durgin, Sanford, Maine; Dr. E. F. Gage, Rochester.

Dr. J. W. Parsons, for the Committee on Necrology, reported on the death of Dr. E. Q. Adams of Kittery Point, Maine.

Resolutions were introduced and adopted.

Dr. L. G. Hill, of the same committee, reported on the death of Dr. Nathaniel Low of Dover.

Dr. L. G. Hill read a paper on "The Management of Natural Labor."

Adjourned at 2 o'clock for dinner at the American House.

Session resumed at 3 o'clock.

Dr. Hill's paper was then discussed by Drs. Wheeler, Pray, Ham, Parsons, Whittier, and Stackpole.

Dr. Wheeler believed that the science of midwifery was being studied as a new science; that one's hands should always be disinfected before an examination; that we should always determine whether there is a laceration of the cervix or rupture of the

perinæum, and that the accoucheur should always see the parts, not feel them merely; he thought the physician should always carry with him a needle to use in case of rupture of the perinæum, and, in his opinion, the immediate operation was the best.

Dr. Pray, referring to puerperal fever as one of the results of labor, expressed the opinion that there was a difference between city and country practice.

Dr. Ham spoke of a case of his own, where he had not exercised care enough and the woman had puerperal fever lasting six weeks, an experience which was enough for him.

Dr. Parsons thought there could be no question of the fact of blood poisoning. He believed in his own case he had conveyed the disease to a woman from a case of erysipelas. He thought in all cases there should be a careful inspection to see if there was any laceration. He thought there was too much hurry in removing the placenta; if there is less hurry there is less danger of hemorrhage; does not hurry to remove it from the vagina even, as there it acts as a plug.

Dr. Whittier thought there was a difference in the character of the work a physician did about the care he should exercise in midwifery. A surgeon should always disinfect his hands from the nature of his work. A physician who was attending a case of malignant scarlatina should not attend a woman in labor. He also believed the woman should be dressed before labor if practicable.

Dr. Wheeler thought the hand, after delivery of the child, should be kept on the uterus, and keep it contracted until the placenta is removed, or there will be danger of hemorrhage.

Dr. Stackpole believed that in cases properly treated it was rare to find adherent placenta.

Dr. J. W. Parsons of Portsmouth, chairman of Committee on Selection and Assignment of Topics for next annual meeting, reported as follows:

Dr. A. Noel Smith, Dover — on Lithæmia.

Dr. F. P. Virgin, Rochester — on Typhoid Fever.

Dr. P. A. Stackpole, Dover — on Sudden Deaths.

Dr. J. O. McCorrison, North Berwick, Maine — on Nitrite of Amyl.

Dr. J. F. Hall, Portsmouth — on the Importance of some financial Education to the material Welfare of Physicians.

Dr. M. C. Lathrop, Dover — on Regularity in Medicine.

Dr. J. H. Wheeler, Dover — on the Treatment of Menorrhagia in Uterine Fibroids.

Dr. H. R. Parker, Dover — read a paper on the Germ Theory.

Dr. D. T. P. Chamberlain, Dover — read a paper on Ergot.

After giving a brief history and describing its method of action, he proceeded to discuss its therapeutic employment. He said: "In all forms of hemorrhage where the situation of the bleeding vessels precludes the use of topical or mechanical means for its arrest, there is no other remedy so deserving of a trial or worthy of our confidence." He spoke of its use in diarrhea, dysentery, prolapsus ani, and diabetes; also of its power to counteract the evil effects following the administration of quinia and salicin; the advantages of its use in various pathological conditions of the nerve centers, in uterine fibroids and subinvolution of the uterus. In considering its employment in obstetric practice he did not object to its use in flooding after the evacuation of the uterine contents. After speaking of the dangers to mother and child attending its use before the expulsion of the latter, the reader said: "Any such case in which its use might seem to be indicated would admit of the application of the forceps with this advantage in their favor, that, having the labor under our control, we can so regulate the forces as to avoid injury to the maternal parts, prevent the suffering that results to the mother from its use, and often save the life of the child; that by its use we substitute a pathological process for a physiological one, and instead of increasing the natural powers we bring into play unnatural ones, as witness the changed character of the contractions; that nothing is so essential to the safety of mother and child as the intermittency of the pains and the recession of the presenting part, and that the action of ergot tends to annihilate these characteristics of natural labor." The reader claimed that for the expulsion of the placenta we have other means as effectual, and that the tonic contractions which it produces may incarcerate the placenta within the uterus making its removal difficult and increasing the sufferings of maternity; also, that all of the indications for its use

in obstetrics can be better met by the tampon and other means, and that the same objections are valid against its use for the expulsion of the retained secundines as for the placenta at full term. In conclusion he said: "In view of the dangers which we incur and the limited advantage which we can any time reasonably expect from its use, that the policy which precludes its use from obstetrical practice before the complete evacuation of the uterine contents is the only safe and commendable one."

By a vote of the society the paper of Dr. Berry was referred to the State Society for publication.

Adjourned.

REPORT OF ROCKINGHAM DISTRICT MEDICAL SOCIETY.

BY ALBERT C. BUSWELL, M. D., SECRETARY.

To the Officers and Fellows of the New Hampshire Medical Society:—

In submitting the sixth annual report of the Rockingham District Medical Society I have nothing but encouraging words to offer; yet we are sorry to see old-time members lying back and leaving all the work for younger hands, who would gladly receive the aid they know so well how to dispense were they so disposed. There is more interest in the society this year than last; members have been more prompt in attending to the parts assigned them, and we have held three interesting meetings.

Oct. 17, 1883. A meeting was held at the office of Dr. H. B. Burnham in Epping. Dr. J. F. Brown gave a resumé of his recent European trip, and remarks on cases were given by Drs. Burnham and Spaulding. Dr. A. C. Buswell of Epping became a member.

Jan. 15, 1884. A meeting was held at the office of True M. Gould, M. D., in Raymond. Dr. C. A. Morse of Newmarket was elected and became a member, and Dr. Ira H. Adams of

Derry Depot was proposed for membership. Papers were read by the president, Dr. H. B. Burnham, on "Amputation in cases of Senile Gangrene"; by Dr. Morse on "Scarlatina," and by Dr. Buswell on "Traumatic Aneurism."

The annual meeting was held at the office of Dr. H. B. Burnham in Epping, May 14, 1884, when the following were elected officers:

President — Thomas O. Reynolds, M. D., of Kingston.

Vice-President — F. W. Spaulding, M. D., of Epping.

Secretary and Treasurer — A. C. Buswell, M. D., of Epping.

Censors and Executive Committee — True M. Gould, M. D., Josiah C. Eastman, M. D., Hosea B. Burnham, M. D.

A paper was read by Dr. Buswell on Genua Valga. Dr. Ira H. Adams of Derry Depot was elected to membership.

Trusting that the prosperity of the past year is but the beginning of a new life for Rockingham District Medical Society, this report is submitted.

REPORT OF THE CENTER DISTRICT SOCIETY.

DR. GEORGE COOK, SECRETARY.

CONCORD, June 12, 1884.

In submitting the annual report of the society the old custom of following the state-society year is adhered to, although the Center District year begins with the second Tuesday in January, at which time we hold our annual meeting, while the other meetings, which occur upon the second Tuesday of April, July, and October, are called regular quarterly meetings.

My report, then, will have to do with the four sessions of this society held during the year intervening between the state-society meetings of June, 1883, and 1884. We now number about fifty active members, and the meetings of the past year have been full of interest and profit. Few papers are read, but the greatest value

of our meeting comes from the report of cases, and the free conversational style of our discussions; and then we get better acquainted with each other. I do not see how any physician can afford not to belong to and attend a district society. It is urged by some that they do not have time, which really, in most cases, means lack of inclination, while others do not join or stay away after being made members.

July 10, 1883. Dr. J. R. Kimball read a paper upon the "Causes and Effects of Inanition," which was followed by a general discussion of the subject. Cholera Infantum was the next topic taken up, opened by an essay upon the same by Dr. G. P. Conn.

Oct. 9, 1883. Dr. D. M. Currier presented a paper upon "Chronic Zymotic Diseases Simulating Consumption." After an extended consideration the paper was referred to the State Board of Health. Dr. F. B. Perkins read a paper upon "Rupture of the Perinæum," and Dr. D. L. Lock one upon "Diseases of the Eye."

Jan. 8, 1884. Annual meeting. Dr. I. G. Anthoine read a paper upon "Habitual Constipation." Dr. J. W. Russell reported a case of uterine tumor and showed specimen. At 12 M. the president, Dr. D. P. Goodhue, delivered the annual address. Dr. G. C. Blaisdell reported an epidemic of scarlatina in his town.

The annual banquet was served at the Eagle hotel.

Election of officers resulted in the choice of:

President — Dr. G. C. Blaisdell.

Vice-President — Dr. M. H. Felt.

Secretary — Dr. George Cook.

Treasurer — Dr. C. R. Walker.

April 8, 1884. Dr. A. H. Crosby made a verbal report upon abdominal tumors. Further reports of cases of like nature were made by Drs. Fowler and Weymouth. The discussion upon the regular order was the necessity of following Prof. Thomas's plan in obstetrics for the avoidance of puerperal fever. Opened by Dr. G. P. Conn; participated in by the members present.

REPORT OF HOSPITALS AND SANITARY SCIENCE OF EUROPE.

JAMES F. BROWN, M. D., MANCHESTER, N. H.

When I applied to your honorable secretary for a certificate so that admittance might be gained to the hospitals and medical institutions of Europe he readily granted my request, and added, *and report.*

The hospital arrangements of Great Britain and the other countries of Europe are immense. Without going into dry statistics there are, according to the population, three times as many as of similar institutions with us. Many of their hospitals make up one thousand beds, with all the paraphernalia for the care of all the various diseases and conditions of suffering humanity; also smaller institutions for special departments such as hernial cases, and hospitals for cripples, which may be endowed by private munificence, or supported by the State. Their medical men of the best sanitary ability favor the cottage system for hospitals, and when of recent date they are constructed on that plan, and those that have been constructed for some years are built very much like ours of not recent date. They never change anything in that line after once building.

Their use of anæsthetics is different from ours, there being much more chloroform administered for anæsthesia than in New York and New England. For many operations, when of a severe nature, it is used wholly, such as stone in the bladder, stretching the sciatic nerve, and extraction of nerves, removal of the upper jaw, and operations on the eye; in other cases it is mixed with ether. Cases of stone in the bladder are quite common; there being so much limestone soil throughout those countries may be a cause. The practice of crushing the calculi instead of cutting for them is very much in vogue. With the greatly improved instruments almost anything can be crushed; saw several broken up and removed through the urethra.

The English and Scotch surgeons are most fearful of new modes, or are what might be called old fashioned in their surgical work, not liking excisions as much as the New York and Boston

professors, but performing amputations where excisions would be performed on this side. I saw the leg of a fine fellow taken off at the knee at the University College, London, for slight injury in face of joint, causing slight ulceration of knee-joint, which ought in all probability to have been excised. But on the other hand, they extirpated a painless and not troublesome eye for bettering the appearance of a young lad, or with the idea, as the surgeon expressed it, "that he could get a situation better." In many other instances of like nature they seemed to work down to the practical in the line of surgery.

The teachings of the French, German, and Austrian schools of medicine remind one of animal vivisection in their daring surgical operations on the human body. No case seems too formidable to undertake, except one from which the patient would immediately die. Trephining for epilepsy, removing tumors from most dangerous regions, abdominal tumors and the uterus entire and its appendages, tying arteries in the subclavian region, the operations for strangulated hernia, and removing portions of the intestines when gangrenous, with operations on the stomach and intestines, constitute some of the capital cases. Also the finer work of Von Græfe, such as amputation of a portion of the cornea, the slitting open of the sclerotic for glaucoma, and his various delicate operations on the iris, excites wonder and admiration when successful.

The use of a solution of corrosive sublimate, one part to one thousand of water, for external dressing, instead of carbolic acid which is very disagreeable to many, is coming into use in the hospitals very generally, both there and in New York. The carbolic spray is used to some extent. The use of iodoform for mucous surfaces is considered to be what Lister's method is for amputations and excisions, a godsend.

The aggregating of medical students in a few centers is somewhat surprising; less members in the profession and far less schools than with us, they congregate in a few schools in vast numbers. The university at Edinburg was much the largest in Europe that I visited. The whole number attending all departments was sixteen hundred. They were from all the civilized countries of the world, and many from India, China, and Turkey,

and Africans from Egypt and Cape of Good Hope. It was a queer sight to see the Turkish students wearing the fez during lectures, and the East Indian, negro, and Asiatic mingling with their white fellows.

One observes a partial absence of that modesty in all those countries which is such a welcome sight in our own land. And as all operations are public to the students and medical fraternity, both male and female, so every one who enters the hospital must go to the amphitheater. Not only that, but they employ women dressers almost entirely; nuns and sisters of mercy and charity in Catholic countries, and Protestant females in other places. I have seen a case of amputation of a portion of the penis turned right over to women dressers. Very many young women go to be treated for all uterine disorders and surgical cases of that region, and jump on the table before large numbers of the male sex with a nonchalant air refreshing to behold. I often thought that I hoped the day was far distant when circumstances would compel the young ladies of America to such a course.

The announcement that the true cholera bacillus or germ had been discovered by a medical commission in India created much interest among medical men of Great Britain, and the prevalence of the Egyptian cholera made the discovery quite opportune. Time only will tell whether this discovery will amount to anything. The Egyptian cholera was described by European medical men as a filth cholera, and not the true, wide-spreading Indian disease of that name. Anyway it caused a remarkable activity in street-cleaning throughout all cities visited.

There are not so many doctors, according to population, anywhere on that side as with us. Switzerland has the most, being somewhat like our own land, a republic, and the common people more prosperous, having only one to every two and one-seventh in the United States. We have three times as many as Great Britain, five times as many as France, and four times as many as Italy and Germany. The fact is accounted for on the condition of the people. Three-fourths of them are so poor that they can hardly get bread, say nothing of paying the physician, and the doctors must rely on the one-fourth who are rich; and another

reason is the vast number of public institutions, hospitals, infirmaries, and dispensaries.

The authorities have adopted a plan of charging a small sum for board in the hospitals, in some cases twelve cents per week, and for out-patients asking the bare cost of the medicines. It is found to work pretty well, the patients being more sure to take their medicine when paying a small sum for it than when issued free.

The remuneration of doctors is subject to enormous difference in price. In the rural communities of England visits are made a short distance for one and six, or thirty-six cents of our money; and obstetrical charges of one-half guinea, two dollars and fifty cents. In the cities and larger places prices are higher, approximating somewhat near our own prices, while fifty to one hundred pounds are charged for consultation by some of the most noted surgeons of London. I did not learn what the highest prices for obstetrical attendance was except by reading, but judged it to be much lower than with us. A doctor who charges over a guinea a visit for consecutive visits is rare even in London.

A few notes by the way will close this report. Cremation does not make much headway in those countries, though the Germans are somewhat more likely to go into it extensively on account of their materialistic tendencies. The nobility of Austria have a peculiar way of sealing up different parts of the same body and putting them in different places, as the heart in one church, and bowels and stomach in another, and the remainder of the body in a third. The people of Naples have three hundred and sixty-five vaults, one being opened each day, into which they are said to put the bodies of their dead poor, throwing in lime and hermetically sealing them up till next year. The rich and middle classes are taken leave of at the churches, and the friends do not follow them to the cemetery in many cases.

The question of miscarriage or abortion is discountenanced by the entire population much more than with us, and a much larger percentage of illegitimate births may be the result, the number of illegitimates being published with the lawful. The per cent varies from about twenty to forty and fifty, according to the different countries. The young women fall into trouble, but make

the best of it and marry if possible; if not, they go into some institution and give birth to the child, and it is kept for them, and the mother can go out to service, or to some religious institution and take the veil. In Vienna there is a lying-in hospital where such unfortunates can go, and their names are not required; but the the child is numbered so that if ever the mother claims her offspring there can be no mistake. These children are reared by the state, and make good soldiers and nurses, and the most talented enter the government civil service or the professions.

In conclusion, I advise any or all hard-worked physicians to take a trip to Europe, and, my word for it, he will never regret the journey, but feel amply repaid for all trouble and expense.

REPORTS OF DELEGATES.

REPORT OF DELEGATE TO THE CONNECTICUT MEDICAL SOCIETY.

BY C. B. HAMMOND, M. D., NASHUA.

To the President and Fellows of the New Hampshire Medical Association: —

As delegate from New Hampshire I had the pleasure of attending the ninety-third annual meeting of the Connecticut Medical Society, held at New Haven, May 28 and 29.

The mass-meeting was held at the City Hall on the twenty-ninth, commencing at 9 A. M. The exercises were opened by prayer, after which the secretary's report was read. The address by the president, Elisha B. Nye of Middletown, followed; subject, "The Medical Profession and its Claims to the Respect and Gratitude of the Community." The address showed abundance of forethought, and was well delivered. The report of Committee on Matters of Professional Interest, by Dr. W. C. Wile of Sandy Hook, and the dissertation, "The Germ Theory of Disease," by Dr. N. E. Wardin of Bridgeport, followed the president's address.

Under the head of "Cases of Interest" were shown two patients by Prof. W. H. Carmalt of New Haven. The first was one where the leg, previously bent at right angles to the body by hip disease, was straightened nearly to the normal position. This was done by cutting down upon the femur at the outer and upper aspect of the thigh, and breaking the bone just above the great trochanter. The after-treatment consisted of a slight extension, and then as in a compound fracture of that part. The result was

a good union at a much smaller angle, making a longer and more useful leg, the patient being able to walk up stairs and get about quite comfortably. The other case was one of excision of the anterior half of the tongue, tracheotomy and the tying of both linguals being previously done. The ligaturing of the linguals prevented the troublesome hemorrhage common in such cases, and allowed the operator to carefully dissect away the part by means of the scissors, and to minutely cut out all the diseased tissues. The tracheotomy was more to favor the after-treatment, which consisted of plugging both the mouth and nose with borated cotton, and thus antiseptically sealing them. This prevented any septic absorption from the decaying products of the stump. The tube was kept in from three to four days, until the stump showed granulations; and then the patient was allowed gradually to breathe through his mouth. There was perfect healing of the tongue without any untoward results. The only trouble experienced was that the opening into the trachea proved very obstinate in closing, and left a small sinus which was obliged to be kept covered. The conversation of the patient was quite intelligible, even more so than before the operation.

The following essays were then read: "Medicine Fifty Years Ago," by Dr. R. W. Matthewson of Durham; "Hernia," by Dr. G. W. Harris of Old Lyme; "The Early Diagnosis and Treatment of Pott's Disease of the Spine," by Dr. G. B. Packard of Hartford; "Seventy-five Cases of Conjunctivitis," by Dr. F. M. Wilson of Bridgeport; and other voluntary papers. The essay by Dr. Wilson was particularly interesting, as he dwelt mostly upon the treatment of conjunctivitis by boracic acid. He claimed that in the epidemic form the acid acted as a powerful antiseptic, not only preventing the spread, but also curing the disease. The strength of the solution used was from five grains to the ounce to a saturated solution, and this was instilled beneath the lower lid, from two to three times a day. The result in each case was satisfactory, and in the majority a cure.

About twelve o'clock the society adjourned until one, when the annual dinner was served at the Athenæum.

The attendance at the convention, considering the size of the state, fell far short of my expectations. However, there was

manifested among the younger members an interest which argued well for the future of the society.

I was kindly received by Prof. W. H. Carmalt, and cordially invited to visit the Connecticut State Medical Hospital, which I did on the following Saturday, in time to witness the surgical clinic held by the professor before his class. Dr. Carmalt is a man of rare talents as a surgeon, being very energetic and painstaking in the study and practice of his profession. The greater part of the hospital is new, and is surrounded by a large plot of ground, allowing plenty of air and sunshine.

Truly, Connecticut is making rapid strides both in medicine and surgery.

REPORT OF DELEGATE TO VERMONT STATE MEDICAL SOCIETY.

BY C. B. DRAKE, M. D., WEST LEBANON.

Your delegate attended the semi-annual meeting of the Vermont State Medical Society at White River Junction, June 11, 12, 1884. Whole number of physicians present, 39, including from New Hampshire, Prof. Frost of Hanover, Drs. Allen of Acworth, Hunt of Cornish, and your servant of West Lebanon. Obituary notices of Drs. Cyrus Porter and E. E. Phelps were read by Drs. C. S. Allen of Acworth, N. H., and D. F. Rugg of Hartland, Vt. The paper on hernia, by Dr. E. R. Campbell of Bellows Falls, Vt., brought out a lively discussion on mode of treatment. In strangulated hernia it was deemed best to operate early. Taxis to be applied with caution. Opium, coffee, castor-oil, tobacco, suspension by the heels, were referred to as means by which to return the gut. In congenital hernia, some advised the "let alone" treatment, while a majority were in favor of keeping the gut in place with a truss or by folding a pad of adhesive plaster, and applying it to the skin over the rent in the abdominal wall, the pad to be kept in place by a bandage.

The address of the vice-president, Dr. D. F. Rugg of Hartland, was of much interest to all, especially to the younger members of the profession who have entered the ranks since 1876. In that year a law was passed by the legislature of Vermont requiring the medical society to elect a board of censors whose duty should be to grant licenses to practitioners of medicine, midwifery, and surgery, upon certain conditions. In compliance with this law, the Vermont State Medical Society elected a board of censors who issued licenses to qualified applicants till the year 1878 or 1879, when the law was so amended as only to apply to persons beginning practice since 1876. The medical society was not in sympathy with the amendment, and refused or neglected to elect a new board of censors, believing that by so doing the law would remain only as dead letters on the statutes of the state. In vain did the honest doctor, in or out of the state of Vermont, apply for a license to practice medicine within the limits of said state. He was invariably met with the reply that there was no need of a license as there were no censors, while, on the other hand, he could turn to the Vermont state law and read, not to his pleasure, "Practice without a license and you shall not be entitled to collect pay therefor, or give a certificate of death, and you shall be subjected to a fine." So the condition remained till brought up at the semi-annual meeting, when it was discussed and the conclusion reached that the last elected censors were the authorized board, and should grant licenses in compliance with the law. Your delegate being located near the Connecticut river, is frequently called to visit patients in Vermont. After hearing the conclusion of the society, he applied for a license and was told by one of the censors that the application would receive immediate attention. I think that Fellows of the New Hampshire society should be informed on this subject, that they may protect themselves by complying with the requirements of the Vermont law. To speak of all the subjects brought before the meeting, though worthy of mention, would take too much of your time. I will mention only one other, Medical Botany. This paper, by Dr. F. Blanchard of Peacham, was of unusual interest, suggesting that much valuable time could be saved by knowing the probabilities of a "new remedy." If a remedy came from

a family of plants known to be wanting in medicinal properties, we could not expect to obtain a remedy of value by experimenting with it. The doctor spoke of the lily family as being one full of medicinal properties, and expressed a hope that the profession would examine and report.

The next meeting will be held October 8 and 9, at Montpelier, Vt.

NECROLOGY.

OBITUARY NOTICE

OF

NAHUM WIGHT, M. D.

BY JOHN WHEELER, M. D., OF PITTSFIELD.

A few weeks since the life of one of the oldest Fellows of this society ceased. We who knew him well were expecting this. There were prodromic monitions of it. He had lived nearly four-score years. It seemed that we were prepared to calmly accept this natural event; but when the great and final change came to our old friend it made deep impress, and sorrow took possession of our hearts.

Nahum Wight, M. D., died at his home in Gilmanton on May 12, 1884. He was the son of Seth and Lydia Mason Wight of Gilead, Me., at which place he was born Nov. 20, 1807, being the eldest of a family of fifteen children. He traced his lineage from Thomas Wight, the primeval English emigrant of this name, who settled in Dedham, Mass., in 1637. The circumstances of his family were such that he had to get his education and make advancement in life mainly by his own efforts, industry, and self-denial. Having made the best preparation he could for the study of medicine in the public schools, by study in private and at the academy at Bridgeton, Me., he placed himself for medical instruction under the charge of Dr. John Grover of Bethel, Me., father of United States Senator Grover of Oregon, the latter being for a time a pupil of Dr. Wight. After three years' study and attendance on one course of medical lectures at Dartmouth College and two courses at the medical school at Bowdoin College, he graduated at the latter-named school in the spring of 1832. In November of the same year he settled at the Academy village in

Gilmanton, succeeding Dr. William Prescott in medical practice and in the good will of his patrons. His competitors when he commenced were Dr. Dixi Crosby, and Dr. Page, a young physician. After a few years Dr. Crosby was appointed Professor of Surgery in the Dartmouth Medical College and removed to Hanover, and Dr. Page entered the ministry. Dr. Wight, being left alone, held the whole field without competition.

Gilmanton village, though small, was at this time in many respects important. It was the business center of a large and thrifty farming community in a town of nearly four thousand inhabitants. Here the highest court in New Hampshire held sessions. It was the seat of a theological seminary conducted by professors eminent for learning, wisdom, and piety. Here, also, was one of the oldest and most flourishing academies in New Hampshire, which, before public high schools existed, drew students from the best families in the eastern and central parts of the state. The society of the place was noted for morality, intelligence, and refinement. Of such a community the young physician received the respect, confidence, and patronage.

Dr. Wight began early to take charge of medical students and continued to do so till near the close of his life. More than forty young men were under his direction during the whole or a part of their course of medical instruction. For several years he maintained a dissecting-room for the benefit of his students and himself, when such an enterprise was made difficult and somewhat perilous by prejudice, and the law by which one might be sent to the state-prison for having in possession a dead human body. He defended human dissection, and taught the public its necessity. The authorities of a distant town having seized, in transit, and buried one of his subjects, he promptly claimed it, and by the daring diplomacy of a student, who is now an honored Fellow of this society, he recovered it. Some elegant and valuable dry preparations are still carefully preserved that were made in his dissecting-room, which give an idea of the time used and the skill and patience there exercised. In 1844 he was appointed to succeed Dr. Dixi Crosby as lecturer on anatomy, physiology, and health in the Theological Seminary. Dr. Wight continued studious and faithful in his professional duties, growing

in knowledge and favor till 1846, when he determined to go abroad for medical improvement. He was in Europe nearly one year, visiting the medical centers, observing and studying. Much of the time he spent in Paris. He was somewhat embarrassed from want of familiarity with language other than his own; but, with acute aptness for capturing ideas, he made the most of his acquirements, and was assisted by a friend who was a good linguist. To his observant eyes and keen perception, operations and demonstrations came home in pure English.

Having gained much practical knowledge and obtained a supply of excellent instruments, including a microscope for medical purposes, he returned to his professional work with renewed zeal. His letters from abroad were much enjoyed by such a scholar as the late Prof. E. R. Peaslee, and his lectures after his return were received with great favor. To leave family and business and incur the expense of travel and residence in Europe for a year, from the savings of a moderate income, was quite a bold undertaking for a country doctor forty years ago.

Dr. Wight attained eminence in his profession. His practice was distinguished by definiteness in diagnosis, in which he early began to excel. His faith in the use of drugs was reasonable but limited. He was a good surgeon and was often called for consultation and to operate by other physicians, by whom and the people in a wide field his opinions and services were held in high estimation. Many difficult surgical operations were successfully performed by him. Dr. Wight loved the profession of his choice and strove to elevate it. He hated and contended against anything that tended to debase it. Woe to the luckless pretender who came into the doctor's presence, for he was sure to be lectured with biting sarcasm and scorn. For many years he was an active member of the Center District Medical Society. In 1839 he became a Fellow of this society and occasionally took part in its discussions and read papers before it, and in 1874 he was elected its president. From his address in 1875 came a suggestion of the movement commenced by Dr. A. H. Crosby, which resulted in the enactment of the state law regulating the practice of medicine and surgery, which has had such salutary influence.

Dr. Wight had profound regard for this society, was proud of

his connection with it, and desired that some record of himself might become a part of its annals. Though Dr. Wight was very independent in his acts and mental conclusions, his manners were agreeable to all classes. His conversation was instructive and always commanded attention. He would describe scenes and relate anecdotes drawn from his own observation and experience with striking effect. His marked countenance and mien indicated ability and energy. Outside of professional work he sought and did but little. For three successive years, commencing in 1841, he represented his town in the legislature. He labored with much anxiety for the welfare of the ancient academy, of which he was the leading trustee and treasurer for many years. He attended the Congregational church and was a much interested supporter of it, though not a communicant.

In 1833 he married Mary Straw, who was a devoted and excellent wife. It was his fate to meet with much affliction. He survived his wife and five of his eight children. His first-born, a son, who much resembled his father and in whom his ambition and dearest hopes centered, with trunk packed for the journey to enter college, was suddenly seized with disease involving the brain, which destroyed his life in a few days. The father's grief at this loss was terrible. It modified the remainder of his life. The shadow of it followed him to the grave. He performed two severe surgical operations on his wife by her requirement. The writer was called once to assist. An anæsthetic made the patient calm and comfortable,— the surgeon suffered. The operation was well performed, and death was averted several years. A large number of his friends gathered at his home on the fiftieth anniversary of his settlement in Gilmanton, and commemorated the event in an impressive and happy manner. A few weeks after this occasion he was warned suddenly by a mild apoplectic attack. From this he nearly recovered and continued to visit patients, with an attendant, till about two weeks before his death, when he was found in bed one morning with signs of cerebral hemorrhage, and helpless from hemiplegia. He was attended by his assistant, Dr. Brown, and visited by Drs. Nelson and Abbott of Laconia and other physicians. Although he was, for a while, able to converse quite well, he gradually sunk, and calmly passed away. At his

funeral the church was filled by neighbors, patrons, physicians, clergymen, and representatives of the bar and bench, many of whom came from a distance,— all friends of the good old physician. The religious services were conducted by the pastor, Rev. S. S. N. Greeley, who uttered an eloquent and tender eulogy on the pleasant acquaintance of his early life and the associate and intimate friend of recent years. The remains were borne to the village cemetery, beautiful by nature. Physicians and chosen friends, sadly and thoughtfully, with careful hands lowered to his last resting place all that was mortal of Nahum Wight. For more than half a century he honored our profession, and was a benefactor to his race. He was beloved by a host of friends. The memory of his deeds and virtues will remain a precious heritage to his children.

OBITUARY NOTICE

OF

SOLOMON MASON WHIPPLE, M. D.

BY D. P. GOODHUE, M. D., SPRINGFIELD.

Solomon Mason Whipple, M. D., son of David Whipple, was born in Croydon, N. H., July 28, 1820. He was educated at Lebanon and Norwich University, graduating and receiving the degree of A. B. from the latter institution in 1846. He then commenced the study of medicine with the late Dr. Thomas Sanborn of Newport, and with Dr. Ira Davis of Norwich, Vt. He attended medical lectures at Dartmouth, and Burlington, Vt., graduating from Burlington in 1849. He immediately began the practice of medicine in New London, where he remained until his death, which occurred January 16, 1884. He became a member of the New Hampshire Medical Socieiy in 1852, and after filling several minor offices was elected president of the society in 1876. This was his last meeting with the society, as at this time he was in quite feeble health. June 9, 1851, he married Henrietta K. Hersey, by whom he had three children, Ashley C. Whipple, M. D., Amos H., and Sherman L.

The life of Dr. Whipple presents but little of that stirring event or popular achievement which makes the biographies of men of interest to their fellows. Engrossed in the cares and duties of an exacting profession, and by fortune engaged in its less pleasing phases of experience, but little time was left for the cultivation and development of those tastes and ambitions which make men great in the eyes of the world, or raise them in the scale of popular fame. But where his life-work was laid, there it was well and faithfully accomplished. To those who knew him intimately, and none could thus know him who did not seek him behind

the formalities and conventions of daily intercourse, his character and career presented phases of high interest and qualities worthy of admiration. Born of a hardy race of pioneers, and in early life reared in the adversity of their privation, his was a hard and laborious struggle to attain the goal of high ambition, a struggle in which, with a physical weakness which gradually undermined his health, he acquired a might of will determination which in his days of success gave force to his character, and in waning years enabled him to bear his pains and sufferings with a firm and unwavering fortitude; and if this stoicism enveloped his character in an *ensemble* of sternness, its acerbity was only on the surface; beneath it lay the courage and true nobility of manhood.

Dr. C. C. Pike, a former student of Dr. Whipple, writes: "I know his abilities far outshone his opportunities. His mind was never at a loss, was always full of expedients. Surgery would have been his specialty could he have had an opportunity to make it so. In early manhood, before I had studied medicine, I received a severe gun-shot wound at the battle of Fredericksburg, Va. The bullet, a large minie, passed through my face, cutting off Steno's duct and lacerating the parts so badly that in healing it left a very troublesome salivary fistula. After a long time spent in military hospitals, I took a discharge and came home. Went to Hanover and was operated upon by our dear lamented 'Dr. Ben.' Being unsuccessful, I then went to the Massachusetts General Hospital, where I was operated upon several times by Dr. J. Mason Warren, but each time unsuccessfully. Then I gave it up and returned to my academic course at New London, boarding, as I usually did, at Dr. Whipple's house. He had often made inquiries concerning my former operations, but had said very little. One day he very delicately hinted that he thought the fistula could be cured, and mentioned a 'little plan,' as he called it, which 'little plan' struck me at once as being so simple and yet so sensible, that I immediately requested him to operate, which he soon did and with perfect success. I do not think he ever had an opportunity to do the same operation before or since. I have since operated in the same manner upon two cases, and a friend of mine did it under my direction

lately at the Salem hospital; perfectly successful each time. I have no space to describe the operation. So simple it was that it needs only to be illustrated to describe it. He was never half appreciated where he was located. A man of unimpeachable morals. No man ever heard aught against the moral character of Dr. Whipple."

About sixteen years ago Dr. Whipple fell, striking on the back of his head. He was a little stunned at the time, but did not consider the hurt serious. Within a month, however, paralysis began to be developed gradually, which lasted for a long time, but as gradually passed away. After this his health was never so firm as before, and his professional associates think that it took him longer to form a diagnosis, although after it was formed it might be just as correct as before. For several years he suffered from a complication of diseases, so that he was unable to do any professional business, although able to take short walks until the time of his death, which occurred from pulmonary hemorrhage. In his last days he displayed that indomitable will and reliant confidence which exhibited well the restful consciousness of a life well lived and duty performed.

OBITUARY NOTICE

OF

EDGAR OMERA FOWLER, M. D.

BY J. C. WHEAT, M. D.

Mr. President and Fellows : —

To say that I heartily appreciate the compliment which invited me to speak to you on this occasion, would but imperfectly express my sense of gratitude of the honor conferred by your ex-president, the father of this lamented son. Personally I have the honor of knowing but little of the son, but the associations which have linked me with the bereaved father for so many years, whose friendship I enjoy, whose instruction I have sought, and whose kindness in many ways to me he has shown, I shall be ever proud and grateful to acknowledge. This annual meeting cuts another notch in the crane of time, and as we again meet and count the gain and loss which this year has made, and we take a review of all that has passed, we know we must write the history for those who come after us, and I thank you for the privilege allowed me in testifying to the value of a noble life, honored by us all, precious to his friends, and dear to the ones who called him husband and son, which, since the summer's clouds softly floated over our meeting one year ago, has so unexpectedly and suddenly gone out.

The end has come, and all that is mortal of him has ceased to be; he has passed on to the better life. Our hearts are sad, for he was a good and true man, and the profession and the world are losers when such a man dies. His wife was at her father's when the telegraph announced his departure. His friends are numerous, and fully sympathize with the family and relatives who mourn him thus prematurely cut off. He was thorough in

his profession, a faithful doctor and friend, and a successful practitioner; and a remarkable social gift made him companionable to old and young, and in the lodge and social circle he was the genial friend and brother. He fairly blossomed in the atmosphere of home. As a magnetic quality in the sick-room few equaled him. For a young man he had a large and varied experience. A retentive memory, great readiness to adapt himself to present circumstances, and a wide knowledge of medical books and of human nature, together with a strong intellect, a lively imagination, and a keen sense of humor, made him a really attractive physician, as he was a favorite in the sick-room. But he is gone, and that noble, erect, and stately form in which he dwelt is a wasted and deserted tenement, and has been placed in the old graveyard in the spot sacred to the memory of those who love and bear his name. The funeral services were held in the Methodist Episcopal church, it having been offered as a token of the high esteem in which he was held by all in his boyhood days. A reverent congregation filled it to overflowing, and seemed to be in hearty sympathy with the words of heartfelt eulogy pronounced beside his casket. A delegation of Odd Fellows and Masons from Danvers, Mass., and Bristol, to the number of about three hundred, headed the procession to the church and to the grave. It was the longest procession ever known in Bristol, numbering nearly a thousand people. The body was committed to the ground, and the impressive services of the Orders read and his coffin strewed with the emblems of immortal life. The benediction was pronounced, and we turned our faces homeward, sad indeed, but with a deep undertone of thankfulness and joy, for it is often that such times of mourning furnish a better lesson than times of mirth.

Edgar Omera Fowler, M. D., was a native of Alexandria, N. H., born May 7, 1853, but the parents soon moved to Bristol with the baby boy, where he grew up in our thriving and picturesque village. Always beloved from a boy, the fond hopes of parents and friends were fully realized in the maturing of one of the most beautiful and manly characters that ever blessed the profession. He was educated at Bristol high school, Lewiston, Me., and New Hampton, graduating at the latter institution

April, 1869. On leaving school young Fowler pursued his medical studies in the office of his father, Dr. H. B. Fowler; attended lectures at Hanover in 1870, and was with the late Prof. A. B. Crosby at Long Island Hospital in 1871, and at the Bellevue Hospital, 1872–73; graduated at Dartmouth, June, 1873. With the exception of his time away to lectures and hospitals, he gave all of those preparatory years to the help of his father in his large and laborious country practice. In doing this he was stimulated no less by filial love than by a growing desire to be well trained in his professional duty. Thus were the father and son intimately associated, and the love which son and father have for each other was strengthened, and they grew to be two kindred souls, the father confiding in the son, and the son in the father. They studied together, they thought and planned as one; they took those long and wearisome rides in the same carriage over hill and through vale, by day and by night, in summer and in winter. It had always been the wish of the father that one of the boys should be a doctor, and it was nothing unnatural that this son should entwine himself, as it were, with "hooks of steel" around the father's heart, as they grew into each other's life and became almost one, as it were, in sympathy and in purpose. The father seemed to regard him, and, in fact, treated him as an older brother rather than as a son. He was a lover of nature, and when a boy, before he had learned to weigh the serious side of life, he seemed to worship her as a thing of beauty, and he could ever see scattered about him in profusion her rich gifts, such as sunshine and shadow, mountain and valley, shrub and flower, all in harmony and in beauty. Often has he climbed Sugar Hill to catch a sunset from its summit; and what a sensation of delight it was to him, so full and satisfying, sweeter than boyhood play! and he would talk and tell of it to his mother after he had returned to her for the night, and it would remain on his mind, a perpetual feast. As he would be riding with his father, with the freshness of his youthful eye would he enjoy the evening sky lighted up with her ten thousand sparkling orbs, while the full moon rolled in the heavens as their guardian angel, and as those fleecy clouds would hide her face, and as she would seem to run to get beyond them, he would enjoy it as we enjoy the nectar of a full blown rose.

He would say to his father, "I will drive, and you can rest, only point out and tell me the names of some of those sparkling orbs." But later in life the love for the father strengthened, and his love for nature remained unchanged. And that last visit brought back to them all the sweetness of their lives, and they seemed to live in that short time, as it were, in a blissful haven.

After taking his medical degree it would be natural to say he commenced practice, but, indeed, with our late brother we can say, he continued to practice with his father, and was associated with him one year and then went to Danvers, Mass., where he continued his business until his death, which occurred May 1, 1884. His vivacity of mind, retentive memory, discerning powers, and indomitable energy were apparent to all by the way in which he grappled with business in his adopted home, winning to himself some of the best and most wealthy families before he had been there a year. One can realize only by experience the difficulties of a young physician in a strange place with older ones well established; but he seemed to perform wonders unconsciously, and it was but a short time before he had a large and lucrative practice, as may be seen by his books, for on the day before his death he made twenty-eight visits, and twenty-seven the day that he died. From the student boy to the most important trusts of his early manhood, he proved his integrity and real nobility; and his friendship showed the responsive echo of his heart, in the warm, honest pressure of his hand. What language can in any measure portray his manly qualities? Eagerly seeking the good of others, he never thought of self.

On May 16, 1876, Dr. Fowler was united in marriage with Miss Addie J. Bucklin, a New Hampshire girl and daughter of O. K. Bucklin, proprietor of the Bristol House. The marriage service was performed at her home, and on the day succeeding he took his wife to Danvers, Mass. The faithful companion and one daughter survive him. He was a good man and a kind and loving father and husband, and he has gone to his reward, leaving the rich legacy of a good name and an unblemished character to his loved ones. He is known as something more than a doctor of medicine, great as his achievements are acknowledged to be in

that capacity; we find him having higher aspirations, broader conceptions, emphasizing in every-day life the higher virtues; and we can truly record him as one who loved and cared for his patients. His great heart was ever open to the cry of suffering humanity. There is a grandeur about a life truly lived. Manliness deserves high rank wherever found. He was courteous, genial, and kindly in spirit as he was in manner. Since his removal to his home in Danvers and his connection with the profession and the various societies there, he had endeared himself to their members, and won their respect and esteem as he had the confidence of the whole community. Pure-minded, upright, conscientious, making no outward show of demonstration, but his religion was a life consecrated to the noble purposes and regulated by conscientious obedience to his convictions of right, and his faith embodied all that was grand in thought and helpful in life. His many virtues are gratefully cherished by his family. May they possess the same characteristic which cheered and strengthened him during his short pilgrimage.

OBITUARY NOTICE

OF

JOHN W. MERRILL, JR., M. D.

BY CHARLES P. GAGE, M. D., CONCORD, N. H.

John W. Merrill, Jr., M. D., son of Prof. John W. Merrill of this city, was born in Dorchester, Mass., November 22, 1849. His preliminary education was obtained at the Concord high school and under the tuition of his father. He commenced his medical studies in the office of Gage & Conn, attended lectures in New York, and spent the last year and a half there a pupil of Prof. Frost. He attended lectures at Dartmouth Medical College, where he took his degree in 1881. He began the practice of his profession in Concord, where he remained about one year, when he removed to Somerville, Mass., and thence to Boston. In November, 1882, he married Miss Flora Fisher of New York city, who survives him.

Early in January, 1884, he had an operation for hemorrhoids, performed by Dr. Gay of Boston. Soon after he was by his request, removed to the city hospital. He seemed to be doing well, was about the ward, and wrote to his parents the day before his death. His physician discovered no symptoms to indicate danger until the morning before his death, when he had a slight tetanic attack. He then remarked, "My time has come." The attacks continued to increase in frequency and severity up to the next morning, January 14, 1884, when he expired.

LIST OF THE FELLOWS

OF

THE NEW HAMPSHIRE MEDICAL SOCIETY.

N. B. The secretary requests members to examine this list closely, and notify him of any corrections to be made, as it is intended to publish the roll of members annually, and it is desirable to make it as accurate as possible. An asterisk (*) indicates a Retired Member.

Abbott, A. W.,	Laconia.
Abbott, Edward,	Sanbornton.
Abbott, O. D.,	Manchester.
Adams, D. S.,	Manchester.
Adams, Ira H.,	Derry Depot.
Aiken, F. J.,	Pittsfield.
Allen, Carl A.,	Acworth.
Anthoine, I. G.,	Antrim.
Atkinson, W. P.,	Eaton.
Bancroft, Charles P.,	Concord.
Bancroft, J. P.,	Concord.
*Bassett, Thomas,	Kingston.
Bean, N. W.,	Chichester.
Benner, B. R.,	Concord.
Berry, Ed. S.,	Dover.
Blaisdell, Frank,	Goffstown.
Blaisdell, George C.,	Contoocook.
* Bonney, C. F.,	Manchester.
Boutwell, Henry T.,	"
Boutwell, Henry W.,	"
Brown, J. Frank,	"

Brown, J. P.,	Taunton, Mass.
Bridgeman, Geo. H.,	Keene.
Brooks, N. G.,	Charlestown.
* Burnham, A. C.,	Hillsborongh Bridge.
Burnham, Hosea B.,	Epping.
Buswell, Albert C.,	Epping.
Burns, Robert,	Plymouth.
Butler, Jacob N.,	Lempster.
Carbee, S. P.,	Haverhill.
Carr, A. F.,	Goffstown.
Carr, E. L.,	Pittsfield.
Carter, W. G.,	Concord.
* Carlton, C. A.,	Salem, Mass.
Carvelle, H. de W.,	Manchester.
Chase, W. D.,	Peterborough.
Chamberlain, D. T. P.,	Dover.
Child, William,	New Hampton.
Chesley, A. P.,	Concord.
*Cilley, O. G.,	Boston, Mass.
Clark, D. S.,	Derry.
Clark, Levi,	Loudon Ridge.
Cogswell, J. R.	Warner.
Conn, G. P.,	Concord.
Cook, George,	Concord.
Crosby, A. H.,	Concord.
Crosby, G. A.,	Manchester.
Crittenden, R. A.,	Haverhill, Mass.
Cummings, A. R.,	Claremont.
Cummings, H. C.,	Concord.
* Currie, T. H.,	Lebanon.
Currier, E. H.,	Manchester.
Currier, D. M.	Newport.
Cutter, Geo. I.,	West Swanzey.
Cutter, John H.,	Peterborough.
Danforth, M. S.,	Manchester.
Davis, James A.,	Lebanon.
Davis, S. W.,	Winchester, Mass.
Dearborn, D. S.,	Milford.

Dearborn, S. G.,	Nashua.
Dinsmoor, S. M.,	Keene.
Dinsmore, W. H.,	Milford.
Dix, M. C.,	Hinsdale.
Dodge, C. M.,	Manchester.
* Downs, Chas. S.,	Nottingham.
Drake, C. B.,	West Lebanon.
* Eastman, J. C.,	Hampstead.
Eastman, O. D.,	Woodsville.
Eaton, Frank.,	East Weare.
Emerson, A. L.,	Chester.
Emery, Alfred E.,	Penacook.
* Evans, Earl,	Winchester.
Fairbanks, Chas. A.,	Dover.
Felt, M. H.,	Hillsborough Bridge.
* Fenner, A. G.,	Dover.
Fisher, E. C.,	Sunapee.
Fisher, F. P.,	Enfield Center.
Flanders, Chas. F.,	Manchester.
Fowler, H. B.,	Bristol.
French, Henry M.,	Concord.
* French, Leonard,	Manchester.
French, L. M.,	Manchester.
French, John M.,	Simsbury, Conn.
Frost, Carlton P.,	Hanover.
Frye, Edward B.,	Plaistow.
* Gage, Charles P.,	Concord.
George, Charles F.,	Goffstown.
Gibson, Charles R.,	Woodsville.
Gibbs, L. J.,	Chicopee Falls, Mass.
Gleason, A. R.,	Fitzwilliam.
Gould, True M.,	Raymond.
Goodhue, D. P.,	Springfield.
Goodwin, R. J. P.,	Manchester.
* Goss, Oliver,	Lake Village.
Gove, Geo. S.,	Whitefield.
Grant, L. E.,	Candia.

Graves, E. E.,	Boscawen.
*Graves, F. W.,	Woburn, Mass.
Graves, L. J.,	Claremont.
Greeley, Geo. P.,	Nashua.
*Hall, J. F.,	Portsmouth.
Ham, J. R.,	Dover.
Hammond, C. B.,	Nashua.
Hargrave, M. E.,	Manchester.
Hanson, C. W.,	Northwood Ridge.
Hatch, G. W.,	East Wilton.
Hawley, G. H.	Barnstead Center.
Hill, L. G.,	Dover.
Hoitt, Geo. C.,	Manchester.
Holbrook, Guy,	Colebrook.
How, L. B.,	Manchester.
Howard, G. C.,	Lawrence, Mass.
Hunt, G. W.,	Cornish Flat.
Hutchinson, H. S.,	Francestown.
Jackson, Joseph A.,	Manchester.
Jarvis, Leonard,	Claremont.
*Jarvis, S. G.,	Claremont.
Jones, D. W.,	Portsmouth.
Jones, F. P.,	Goshen.
Judkins, F. L.,	Moultonborough
Junkins, William O.,	Greenland.
Kelley, C. K.,	Plymouth.
Kimball, J. R.	Suncook.
Kingsbury, C. F.,	Lyme.
Knight, L. M.,	Franklin.
Lanouette, Joseph E. A.,	Manchester.
Larabee, G. H.,	Suncook.
Lathrop, M. C.,	Dover.
Leet, George C.,	Canaan street.
Leslie, C. F.,	Windsor, Vt.
Locke, Daniel L.,	Epsom.
*Lougee, I. W.,	Rochester.

Manahan, Val.,	Enfield.
Manchester, C. W.,	Lebanon.
Marden, S. D.,	Concord.
Mason, G. L.,	Meredith.
Mason, J. E.,	Manchester.
*Mason, W. H. H.,	Moultonborough.
McQuesten, E. F.,	Nashua.
Mitchell, Ezra, Jr.,	Lancaster.
Morse, Charles A.,	Newmarket.
Moffett, Frank T.,	Littleton.
Moody, William B.,	Franconia.
Mooar, J. W.,	Manchester.
Morrill, S. C.,	Concord.
Munsey, G. F.,	Greenville.
Myshrall, D. B.,	Natick, Mass.
Nelson, D. B.,	Laconia.
Nichols, C. B.,	Franklin Falls.
Nute, W. H.,	Farmington.
O'Brien, C. C.,	Groveton.
Odell, J. W.,	Greenland.
Odlin, Charles C.,	Melrose, Mass.
Otis, E. O.,	Exeter.
Palmer, Haven,	Plymouth.
*Parker, David T.,	Farmington.
Parsons, John W.,	Portsmouth.
Pattee, Luther,	Manchester.
Patten, J. L.,	Whitefield.
Pearson, E. O.,	Manchester.
*Peabody, L. W.,	Henniker.
Perkins, F. B.,	Londonderry.
Pettingill, James B.,	Amherst.
*Phillips, B. H.,	Suncook.
*Pike, C. C.,	Peabody, Mass.
Pitcher, H. F.,	Milton.
Porter, W. B.,	Walpole.
Powers, G. H.,	Hopkinton.
Pray, J. W.,	East Northwood.

Pray, T. J. W., ...	Dover.
Presby, James M., ...	Salem.
Preston, J. W., ...	Bristol.
Prouty, Ira J., ...	Keene.
Quimby, Charles E., ...	Flushing, N. Y.
Randall, F. D., ...	Hooksett.
Rand, W. H., ...	New Hampton.
Richards, M., ...	Manchester.
Rix, James M., ...	Warner.
Richardson, A. P., ...	Walpole.
Roberts, S. W,, ...	Wakefield.
*Robinson, A. H., ...	Concord.
Robinson, J. L., ...	Manchester.
Robins, G. O., ...	Salmon Falls.
*Rogers, A., ...	Hopkinton.
Russell, J. Wallace, ...	Concord.
Russell, M. W., ...	Concord.
Sanborn, C. A., ...	Newport.
Sanborn, G. H., ...	Henniker.
*Sanborn, J. A., ...	Plymouth.
Sanborn, J. H., ...	Franklin Falls.
Sanborn, T. B., ...	Newport.
Shedd, G. H., ...	Fryeburg, Me.
Sleeper, W. J., ...	Westport, Mass.
Smith, C. E., ...	Manchester.
*Smith, J. Ranlet, ...	Gloucester, Mass.
Smith, W. A., ...	Campton Village.
Smith, W. T., ...	Hanover.
Scruton, J. E., ...	Union.
Stackpole, P. A., ...	Dover.
Staples J. W., ...	Franklin Falls.
Stillings, F. A., ...	Concord.
Stone, M. T., ...	Troy.
Sturgis, James G., ...	Manchester.
Sturtevant, C. B., ...	Manchester.
*[illegible] L., ...	Newport.

Tolles, C. W.,	Claremont.
Towne, G. D.,	Manchester.
Tucker, E. M.,	Canaan.
Tufts, C. A.,	Dover.
Twitchell, G. B.,	Keene.
Wade, E. A.,	Salem Depot.
Walker, C. R.,	Concord.
Wason, Eugene,	New Boston.
Watson, H. A.,	White River Junc., Vt.
Watson, I. A.,	Concord.
Waterhouse, William,	Barrington.
Weaver, C. A.,	New Boston.
Weymouth, G. W.,	Laconia.
Weymouth, H. A.,	Andover.
Webster, W. A.,	Manchester.
Welch, S. N.,	Sutton.
*Wheat, Thomas,	Manchester.
Wheet, John C.,	Bristol.
Wheeler, J. H.,	Dover.
Wheeler, John,	Pittsfield.
*Whitmore, John	Wentworth.
Whittier, S. C.,	Portsmouth.
*Wilson, J. W.,	Contoocook.
Woodward, J. N.,	Nashua.
Young, Leander J.,	
Young, Stephen,	East Rochester.

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